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ORIGINAL ARTICLES.

HYPNOTISM.

ITS USES, ABUSES AND MEDICO-LEGAL RELATIONS.

Read in the Section on Neurology and Medical Jurisprudence, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7–10, 1895.

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It is with a grateful heart and thankful attitude that I address this Section on some of the aspects of hypnotism. After several years of study of this subject in the medical centers of Europe, I found the opportunities here rather inconvenient for anything more than unassisted investigation. Two years ago I found myself repeating the words Euripides put into the mouth of Medea:

> "For when you bring new truths to men's minds
> They deem you not wise but unpractical,
> While those who on deep learning pride themselves
> Are piqued, and you incur the general hate."

It is not necessary to say more, for science has proved too strong for prejudice.

I shall take up the subject by dividing it into four sections:

1. Theories and facts.
2. Its therapeutic uses.
3. Its abuses.
4. Its medico-legal relations.

The theory of hypnotism I shall touch but little upon, for we have been studying the phenomena for several years, and it is now time to take action on our conclusion of facts as far as we have them. As neurologists we have too long been studying the brain, not its functional product—the mind. The abuses of hypnotism call for some attention, as they must be shown and predicated before we can take up the juridic side of the case.

I do not intend to go into the discussion of the theories of the two schools of hypnotism, but I think we can, by looking at the subject from an elemental basis, get a better understanding of the foundation upon which these superstructural theories have been reared.

Whether we take the Charcot or Nancy school, the subject is the same to us from a therapeutic or medico-legal point of view. Charcot's school agree in regarding hypnotism as an induced neurosis closely allied to hysteria, and therefore pathologic, while the Nancy school refuse to see in hypnotism anything but a psychologic condition almost identical in its nature to natural sleep.

Charcot considered hypnosis a distinct entity marked by the presence of certain somatic phenomena while Bernheim denies that there are any technical phenomena characteristic of the condition, and refers everything to suggestion. Although a former pupil of Charcot, my investigations have led me to follow the teachings of Bernheim.

This idea of suggestion grasped in its full significance, compels us to alter somewhat our old idea of the *ego*. In fact, it is questionable if our ordinary conception of it is correct. We are accustomed to think of the ego or personality as something *in se ipso totus, teres atque rotundus*, a complete indivisible unity.

Recent studies in psychology seem to indicate that the unity of the human consciousness is not one of its functional attributes.

To quote Mr. Myers[1]: "My organism is the real basis of my personality. I am still but a colony of cells, and the unconscious or unknowable, from which my thoughts or feelings draw their unity, is below my consciousness and not above it; it is my protoplasmic substructure, not my transcendental goal."

According to this, the self is not a separate entity independent of the organism in which it dwells, and its entity is really a product of its structure. So that it is not only consciousness of self but the quality of the particular self that depends on the relations, partly structural, partly relations of adjustment—between the cell or other units which compose the organism. Alter these relations and you alter the self. These alterations are brought about by suggestion, and this produces the phenomena seen in the various stages of hypnotism.

The general impression that hysterical persons are those chiefly amenable to hypnotism is an idea that I must dissent from. I have hypnotized patients in Iceland, Africa, China and various other parts of the globe, and have not found that the hysterical element was necessary. Furthermore, if only hysterical persons are susceptible we must modify and enlarge our conception of hysteria, or admit that 80 per cent. of men and women, and 95 per cent. of children are hysterical. For nearly all children are hypnotizable, and we rarely find hysteria before puberty. Dr. Schrenk-Notzing has recently published some international statistics contributed by fifteen observers in nine different countries, and these give 6 per cent. of failures in 8,705 cases. Wetterstrand of Stockholm, states that the hardest subjects he found to hypnotize were hysterical and nervous persons, especially neurasthenics. This has also been my experience. Dr. J. J. Bramwell of London,[2] states that he had succeeded in hypnotizing 88 per cent. of both sexes, of varying ages and social positions. The investigations of the Second International Congress of Experimental Psychology admitted the therapeutic advantage derived from hypnotic suggestion and the recognition of the important fact that the susceptibility to hypnotic control is not itself an indication of hysteria or of any morbid condition whatever in the subject.

THE THERAPEUTIC USES OF HYPNOTISM.

As regards the therapeutic uses of hypnotism we

[1] Human Personality, p. 639.
[2] Lancet, Nov. 4, 1893.

have been confronted by two divergent tendencies; the one leading to exaggeration the other leading men to disparage or ignore the subject. It is scarcely necessary to state that this latter attitude is assumed through a lack of scientific inquiry into the matter. These *quid nuncs* display a feat of exegetic audacity which would equal that of a Chinese general. I shall try and look at both sides calmly, without undue enthusiasm or prejudice. The few facts I shall offer for your consideration will be only those that have come under my observation the past year. The literature of the past five years on this subject is so pregnant and rich in facts, and so ponderous in its multiplicity of works, that you are all more or less familiar with the therapeutic uses and limitations of hypnotism to-day.

For insomnia I know of no remedy equal to hypnotism. Lately, considerable has been said about the use of hypnotism in dipsomania and alcoholism. I have found it of great value in these cases, and have been able to cure 85 per cent. of my patients. When I say cure, I mean those who have gone three years without returning to their old habits. I have had one relapse after three years complete abstinence, and one after three years and three months. It is useless to try and cure your patients unless you are fully convinced that they honestly desire to be cured. With the drug habit I have had about the same good result. Bushnell, Surgeon U. S. A., gives a list of eighteen cases. He says: "I have never failed to hypnotize a patient who sought treatment for alcoholism."[3]

The reason we get such good results in alcoholism and the drug habit is on account of that intellectual inertia consequent upon frequent stimulation, and it is a psychologic fact that a mind thus weakened is more susceptible of receiving and accepting suggestion than one in possession of more stable and mental vigor. This is only true where there has been no organic change in the brain tissues. Of course this treatment should go hand in hand with the modern hygienic methods now used in institutions throughout the country.

I will say here that I do not intend to give histories of cases, as my time is limited and I wish to cover the whole ground in a general way.

Hypnotism is of value in enuresis nocturna, masturbation in both sexes, acquired but not congenital sexual perversion. This is a distinction to which I particularly wish to call your attention.

In certain forms of hysteria which baffle all other methods of treatment, hypnotism is invaluable. Pope,[4] reports a case of hysterical alexia cured by hynotism. I have cured cases of hysterical contractures that had been the rounds of the hospitals. Daland also reports similar results.[5] Dr. Eugene Reveielva[6] reports a case of hysterical paraplegia cured by suggestion. I have had one case of paralysis agitans,[7] in which the movements were arrested during suggestive sleep, thereby giving the patient much needed rest. Barretto Pisquer, Bahia, Brazil,[8] gives several cases of hysteria cured by hypnotism. I think that we can lay down the rule that hypnotism will invariably remove hysterical symptoms if not hysteria itself. While these facts may appear contradictory to my former statement that hysterical persons were the hardest subjects to hypnotize, you will remember that I did not say that they could not be hypnotized. They require greater persistence on the part of the operator, and your efforts will often prove fruitless. Mental excitement greatly militates against hypnosis.[9] I have had many failures due to this condition.

In cases of epilepsy, I think that too much importance has been attached to suggestion and not enough to artificially induced sleep. Especially is this so in anemia and chlorosis. Berillon reports a cure of four out of twenty epileptics; in six other cases the attacks were greatly modified. In a young woman of 25 years, an aphasia of three years standing was completely cured. I am far from believing that persons with inveterate hystero-epileptic fits can be cured by anesthetizing hysterogenic zones or by stopping these sleeping periods by hypnotizing and suggesting at the same time. But since the outbreak of inveterate fits is preceded by a period more favorable to our therapeutic operations, the experiment of leading the disease into other channels during these periods seems to me worthy of trial. Wetterstrand is now keeping those patients in a prolonged sleep lasting several months. I believe here we are on the right track. You can suggest intervals of awakening and hunger. I kept one patient who was having five fits a day free from them for ten days, during which she was in an artificially induced sleep. I feel certain that I could have greatly benefited her if not cured her, had I been allowed to continue the sleep for several months. But church, meddling friends, and superstitious family were too strong for me.

Babanski,[10] relates a case of left hemiplegia, with hemianesthesia dating from an attack of year before. The patient had a post-hemiplegic lateral tremor simulating insular sclerosis, contracture of the left leg and arm, and exaggerated reflexes. He suffered from dyspnea dependent on emphysema. Hypnotic suggestion caused a rapid cessation of the tremor, relaxation of the contractures, return of the common and painful sensations to the left side, return of the power to stand and walk without a stick and with very little dragging of the limb.

The amelioration of all the symptoms continued for two years, during which time the man was kept in the hospital and occasionally hypnotized. He died at the expiration of two years. The autopsy revealed foci of yellow softening in both hemispheres, upon the convexity of the left occipital, and in the right hemisphere immediately behind the posterior extremity of the optic thalamus. Almost all the posterior portion of the external segment of the corpus striatum was destroyed, and its cavity filled with fluid. The medulla, pons medulla, and cord were not implicated, nor was there any degeneration of the pyramidal tract.

Bernheim in commenting on this case, suggests the possibility of suggestion having reëstablished the conductivity of sensory impressions of other tracts in place of those destroyed, but Babanski considers that hypnotic suggestion simply affected the hysterical element of the case. The fact, however, remains that a man suffering from a grave organic disease of the brain was very greatly benefited by suggestion and enabled to walk long distances and feed himself for two years, after he had been unable to do so for more

[3] Med. News, Phila., 1894, xiv, p. 337-343.
[4] New Orleans Med. and Sur. Jour. 1894, n. s. xxi, 814-816.
[5] University Med. Mag., April, 1893.
[6] Jour. Med. de Paris, May, 1894.
[7] Parkinson's disease.
[8] Gaz. Med. da Bahia 1894-95 N. 97-105.
[9] F. Jolly, Hypnotismus und Hysterie: eine Eroiderung. Munchen Med. Wochenschrift, 1894, xli, 247.
[10] Hypnotism et Hysteria, p. 41.

than a year. Several cases have been reported from Europe in which the symptoms of locomotor ataxia have been greatly warped by suggestion.

We are all familiar with the fact that local and complete anesthesia can be produced in hypnotic subjects, and minor as well as major operations done with greater facility and less danger than with chemic aids. That hypnotism will ever take the place of our present anesthetics is very doubtful, as this stage of mental suggestion can not always be effected at the time wanted; however, I have used it frequently in cases where I had the time to thoroughly develop the subject, and often in an emergency. I believe that we are doing an injustice in giving the anesthetics without first attempting to produce an anesthetic condition by hypnotic suggestion. In dentistry, for the extraction of teeth, I have used it several times at the request of the dentists. It is a safe, neat and very satisfactory method of painlessly extracting teeth. But the *zeno-genesis* can only be produced by one who has the confidence which comes from experience.

Professor Hitzig[11] produced anesthesia in the whole forearm for painful scars, the effect of such suggestion done but once lasting several months. Prodromal headaches in certain cases can be relieved by hypnotic suggestion. In labor cases it is best to hypnotize your patient once or twice before labor begins. I prefer to begin several days before the expected occurrence, because when labor begins the condition of suggestibility decreases on account of other sensations intervening. A large number of observers, especially Schrenck-Notzing, report successful cases of confinement by hypnotic suggestion. The advantages of hypnosis in labor are the removal of consciousness of pain, regulation of position of limbs, body and attitude, and increase or diminution of uterine contraction by action of voluntary muscles under suggestion.

In persistent hiccough that sometimes baffles all other treatment, I advise you to try hypnotism. In a case of four days' persistent hiccoughing I gave immediate relief. Dr. Fitzgerald, of the City Hospital, St. Louis, had a similar result in a case of an old man who had been hiccoughing for forty-eight hours and who was in a very low condition.

In a large number of cases it is not necessary to produce complete hypnosis to get satisfactory therapeutic results. If you have hypnotized the patient several times; if even he has only been in a state of lucid lethargy, he will often take suggestions satisfactorily in a waking state. Deep sleep is not necessary for suggestions to take effect. There are also persons so amenable to suggestion that hypnosis is unnecessary; this is especially the case with children. In other persons, suggestions must be adapted to the condition of the patient; to his mental individuality, and to the special symptoms to be removed.

I have been unable to see any decided beneficial effects in the hypnotization of the general insane. In fact, it is almost an impossibility to endorm these cases. Idiots particularly, are almost invariably incapable of being brought to that condition of mental attention which is necessary to produce a hypnotic state. In those children who are morally perverted by environment and acquirement, mental suggestion is the proper treatment. In fact, in these cases we have in hypnotism a basis for a mental and moral orthopedia. The only authority who credits hypnotism as of value in the treatment of the insane is August Voisin; but as his statistics only show 10 per cent. of cases benefited, it is scarcely worth placing much confidence in this therapeutic method. Dr. George M. Robinson, of the Royal Edinburgh Insane Asylum, has used it with success in insomnia, as a sedative in excitement, as a substitute for restraint, and to dispel fleeting delusional states and the minor psychoses.

Therapeutically, suggestion is of value in evolving isolated disturbances in the organ of mind, the cerebral cortex to be acted upon, apart from the symptoms of disease which may be associated with them.

[11] Brain, 1893.

THE ABUSES AND DANGERS OF HYPNOTISM.

The first danger that I wish to call your attention to, is one that directly interests ourselves. That is, in receiving statements of hypnotic subjects we should constantly bear in mind the great risk of conscious and unconscious deception. We must have some diagnostic data to rely upon to show the paralyses produced by hypnotic suggestion. These facts must be known by the legal as well as the medical profession. I give you these facts as laid down by P. Richer and Gilles de la Tourette. Complete laxity of limbs, considerable exaggeration of the tendon reflexes, spinal trepidation, loss of muscular sense, exaggeration and modification of the muscular contraction provoked by the galvanic current, and vasomotor troubles. I have generally found a fibrillary motion of the eyelids. Jolly[12] gives three cases of mental derangement treated by hypnotism whose conditions were made temporarily worse by the treatment; that is, they all showed symptoms of true hysteria which they had not before. I have had one case that I feel certain was mentally injured by hypnotism; but it was the manner in which he was treated rather than the effects of hypnotism *per se*. He was a subject that was like a piece of clay in my hands and a case that taught me many a valuable lesson. I sent him to steal Dr. Brinton's watch. This he did most adroitly. I brought him out of the hypnotic state, when he was accused by Dr. Brinton of having his watch. When the watch was found upon him the shock was so great that he immediately went into a cataleptic condition. With great difficulty I brought him out of it. These fits continued almost every hour for several days until I was enabled to hypnotize him and make the post-hypnotic suggestion that he would forget all that had happened. I have never hypnotized persons for experiment since, without giving them a post-hypnotic suggestion. I claim that the injurious effects of hypnotism depend upon the nature of the suggestion; that we are enabled to benefit or injure the mind according to the cortical centers we inhibit or stimulate. I will read you a letter I received a few days ago:

NEW YORK, March 26, 1895.

Dear Sir:—About six weeks ago I was partially hypnotized by a person from whom I was taking lessons. Since that time I have suffered from an oppressive feeling of weight on my brain, and such drowsiness and loss of interest in things about me that I am forced to think that this unusual condition was produced by the hypnotist, especially as I first felt it immediately after the act. Please let me know whether I am probably right in my opinion as to the cause of my suffering, and give me the address of some reputable physician here, competent to diagnose my case and afford me relief. Yours, etc., ———.

[12] Arch. für Psychiatrie, XXV, p. 3.

A. Tuckey[13] mentions a case of complete cessation of respiration by hypnotic suggestion. Recourse was had to artificial respiration. Heidenhain[14] believes that a healthy person might be placed in jeopardy by continued suggestion to cease breathing. I have frequently brought the respiration down to eight a minute, and run the heart beats up to 190. I only ceased the experiment for fear of disastrous results. One could find no easier way of committing murder. The cause of death could not be detected.

We have one well authenticated death by hypnotic suggestion. Ella von Salmon died under circumstances pointing strongly to hypnotism as the chief if not the sole lethal agency in her case.[15]

The autopsy on this case was conducted in the Pathologic Institute at Buda-Pesth in the presence of Dr. Jozas and several other physicians. The brain exhibited a high degree of anemia and consecutive malnutrition, with indications of edema, otherwise there was no abnormality. Dr. Jozas considers the cause of death, acute anemia of the brain, incident to the hypnotic state, with syncope and heart failure. The experiment with her was of a startling and highly sensational nature. While in the hallucinatory state she saw by suggestion a diseased lung, and gave a long description of the pathologic condition in an excited and agitated manner. The final question of the operator had an intense emotional effect on her, and caused her collapse. She did not die from auto- or imparted suggestion, causes which might prove fatal under certain circumstances. In commenting on this case Kraft-Ebbing says: "The question of the cause of death in this case probably permits this answer. The unskillful use of hypnotism by a layman and the unusually violent cerebral excitement stand as the causes of death." This case teaches us that the laity should not practice hypnotism. This naturally brings us to the consideration of the medico-legal aspects of hypnotism.

THE MEDICO-LEGAL ASPECTS OF HYPNOTISM.

We now come to the juridic aspect, and this opens such broad possibilities, such intricate problems, and in our present state of knowledge of the subject, such a bewildering maze of contradictions, opportunities, and incongruities that I approach the matter with hesitancy. To even approach the threshold of this side of hypnotism with as few words as possible is no easy task. However, I will attempt in five minutes to give you the kernel of my thoughts and study on the matter.

I think that I can say without the fear of contradiction that we all agree that laws should be enacted in this country regulating the practice of hypnotism. Such laws, and stringent ones too, exist to-day in most civilized communities. All public demonstrations of hypnotism should be suppressed by legal action, and the courts take cognizance of citizens being subjugated by any unqualified experimenter, as it does of the unlawful practice of drug prescribing or surgical operations by unqualified and unlegalized persons. The trail of hysteria, auto-hypnotism and neurotic eruptions that is left in the towns visited by the traveling mesmerist can only be understood by one watching the route of these pseudo-scientific men. This was well illustrated in the Briggs-Picken case at Eau Claire this winter. Two young girls who had been subjects of a traveling hypnotizer were finally wrought up to such a condition of hysterical auto-hypnosis as to accuse Dr. Picken of seduction under hypnotic control. Judge Wm. F. Bailey very justly decided to get some information upon hypnotism before allowing the plea of hypnotism to be entered. The case being laid before me, I soon satisfied myself that there was no basis upon which to enter such a plea. I concluded that the simulation was objective. That the case was one of auto-suggestive self-deception. The wanton and unscientific hypnotic suggestions which had been given them for several days produced in these girls a condition in which they gave statements of erotic auto-suggestion, delusion of memory, delusion of sight, and gaps in their life's history.

In the Anderson-McDonald case just decided by the Supreme Court of Kansas, wherein the hypnotized or automatic murderer was acquitted and the hypnotizer sentenced to death, we had the first case of the kind in this country, but you are all familiar with several cases of the kind decided by the courts in Europe. One error seems universally prevalent among both the laymen and the profession who have criticised this decision. Because the hypnotizer was not present when the act was committed, the opinion is expressed that the person committing the act was not hypnotized. This is a grave error, and the court should be made familiar with the greatest danger hypnotism presents. I refer to the post-hypnotic condition. By post-hypnotic condition I refer to the appearance of a hallucination at a given day and hour or the performance of a suggested action after a certain interval of time, during which interval the subject is in his normal mental condition. This is the only scientific explanation of the idea of transference of suggestion through space. There is no such phenomenon known to the accurate psychic observer. There must be verbal or ocular suggestion, as sending a note to the subject which commands him to perform certain specific acts. In those cases of murder where hypnotism is proven, and the hypnotizer is absent when the act is committed, this post-hypnotic condition must be seriously considered. These post-hypnotic suggestions are given when the subject is in a state of complete hypnosis, but he will after an interval of time, during which he is in his normal state, carry out the suggestions which have been given him, totally unable to explain his reasons for so doing, and carrying them out in all gradients from credulity to extreme hallucinations, all depending upon the purport of the suggestion. The recrudescence will occur several weeks after the suggestions have been given.

That crime can be committed through hypnotic suggestion, I am fully convinced. I do not base my conviction on the results of the well-known laboratory experiments but upon more practical and satisfactory evidence.[16]

Under certain circumstances there is no reason why the court can not require an examination of the accused and witnesses by qualified hypnotists. *Salus populi suprema est lex.* Evidence thus obtained, however, should be used only as indicating where legally usable and valid evidence might be obtained, and not itself legally usable and valid. Such cases should if possible be tried before a judge not a jury. This is possible in the countries in Europe where the laws

[13] Brain, vol. XIV.
[14] See Loos, Otto: Der Hypnotismus und die suggestion in gerichtlich-Medicinische Beleuchtung.
[15] See Lovrich, J.: Tod wahrend der Hypnose. Pest. Med. and Chur. Presse Buda-Pesth, 1894, XXX, 1016, 1018.
[16] See N. Y. Med. Jour., March 9, 1895.

differ radically in some respects from those extant here.

Hypnotism is a justifiable inquisitorial agent for finding clues. In Indianapolis, last January, Frank Pierce and George Schoppe were both arrested and convicted on evidence given by young Schoppe while in a state of hypnotism. Dr. Gardener, of Napa California Insane Asylum, was called into court last November to hypnotize the murderer Livernash, and succeeded in getting the truth from him. I might continue by quoting a large number of similar cases in Europe, but these are sufficient for my case.

The law in Holland allows the subjection of the accused to the process of hypnotization to obtain evidence, but such evidence thus obtained can not be made use of unless otherwise corroborated.[17]

In discussing the question from the standpoint of criminal law we are confronted by two great questions: 1, the responsibility of the hypnotizer; 2, the responsibility of the hypnotized.

To the first question the answer is very simple. The hypnotizer occupies a position akin to that of an accessory before the fact, who, under the common law of England is equally guilty with, and is punished as a principal; but in the case of a crime committed by one under hypnotic suggestion, the guilt of the hypnotizer is increased. In the case of principal and accessory, there are two wills acting in unison; but in the other, the will of the hypnotizer stands alone in the guilt, and if the crime was murder, his position is precisely that of one who lets loose a wild animal upon his victim, knowing that the nature of the animal is such that he will surely kill.

From what I have said on the first question, it follows as a corollary to the proposition that the second question is answered by saying that the responsibility of the hypnotized is no greater than that of one who is *non compos mentis;* but this broad generalization requires to be somewhat qualified, and in this connection I desire to note a dissent from Albert Hall in his sweeping condemnation of the view of Desjardins, "that a person who commits a crime by post-hypnotic suggestion is punishable, because he might have foreseen the possibility of such suggestion."

This language is, from a legal standpoint, objectionable, in that it is vague and liable to misconstruction, but with certain qualifications it can, I think, be fairly indorsed. If the party hypnotized knew previously that the hypnotizer had this power and was a man of criminal habits and inclinations, and that he himself was subject to hypnotic influence, and yet, while in full possession of his will, he placed himself in such a position as to be within the scope of hypnotic influence, I am strongly of opinion that a certain degree of legal responsibility attaches to him for any crime he may commit, either under the influence of hypnotic or post-hypnotic suggestion, though to what extent he should be punished I am not prepared to say; but his position might be fairly held somewhat analogous to that of an engineer by whose carelessness a passenger was killed—the absence of criminal intent being the same in either case. If the one hypnotized had caused the criminal act to be suggested to him, the guilt of both parties would be equal.

Now, having fixed the status of the hypnotizer and hypnotized before the criminal law as to their respective resposibilities, we come to what I regard as the most difficult problem to solve: how is it to be demonstrated that a given crime was committed by a prisoner while in a state of hypnosis? Such claims are now frequently being brought before our courts. Such a defense may rightly be interposed, and while evidence might properly be introduced in a homicidal case to show that the prisoner had no motive to kill the deceased, but that A had such a motive, and that A possessed the hypnotic power, and that the prisoner was subject to hypnotic influence, and while such evidence might raise in the minds of the jury such reasonable doubt that they would be forced to acquit the prisoner; yet, when the picture is reversed, and we see A placed at the bar, the prosecution is beset with such difficulties under the rules of evidence that I do not consider that it would be competent for it to prove the responsibility of A, by showing that he had exercised the hypnotic power over B at other times, any more than it would be competent for it to prove the guilt of a prisoner by showing that he had been guilty of similar offenses at other times, which evidence is always inadmissable except in rebuttal, where the defense has offered in chief evidence tending to show the previous good character of the accused; and while such evidence would undoubtedly tend to carry moral conviction, it would nevertheless be legally inadmissable. The law deals, particularly in its criminal jurisdiction, with facts, not probabilities, and the evidence must be confined to showing that in committing the crime the one striking the fatal blow was acting under either hypnotic or post-hypnotic suggestion, and that the prisoner was the actual hypnotizer, and, ergo, responsible.

Another point which occurs to me is the difficulty which might well arise from the trouble in getting the person hypnotized to testify in the presence of the prisoner. Might he not, by the exercise of his power over the witness, prevent him from testifying, or render his testimony worthless? Yet it would not be possible to remove the prisoner and then examine the witness, for by the inexorable rule of the common law, every man is entitled to be confronted by the witnesses against him, and no trial can go on in the absence of the prisoner, so that if the prisoner escapes during the trial of the cause, the trial must stop—the common law knowing nothing of any such proceeding as a trial in contumation.

It is evident that some radical changes must be made in our criminal procedure in cases where hypnotism is alleged. I think a point has been reached where scientific investigation, traveling on well-defined and incised lines, has brought out facts that now allow some regulation of hypnotism by a change of laws. The future of the subject should now be confined to those whose training and predilections best fit them to continue research, and properly instruct physician and student. Such prerequisites are absolutely necessary to place the phenomena on a dignified platform with nerve physiology. Medical schools should be able to furnish instruction to their students in this rapidly developing branch of medicine; for, as Kraft-Ebbing says: "Hypnotism as a biologic phenomenon of nature offers symptoms emphatically true, clear and objective, the proof of which is decisive."

[17] Crocq fils, L'hypnotism et le crime. Conferences au jeune barreau de Bruxelles, 1894, H. Lermertin.

DUPLEX PERSONALITY—ITS RELATION TO HYPNOTISM AND TO LUCIDITY.

Read in the Section on Neurology and Medical Jurisprudence, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7–10, 1895.

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After a hundred years of obloquy, hypnotism, with some of its most important phenomena, stands to-day an accepted fact. Telepathy may be looked upon with suspicion; clairvoyance may be suffering in reputation from contact with charlatanry, but the simple hypnotic state with its conditions of lethargy, catalepsy and somnambulism, has passed from the region of doubt and hypothesis to that of a fact in mental science. It is comparatively a newcomer in the scientific world. As a wanderer—an Ishmaelite of unrecognized pedigree and doubtful reputation, it has long been heard of, but no one felt bound, and few felt inclined to make its acquaintance; but now with godfathers and sponsors of the highest respectability in the scientific world, it stands upon its rights and demands place and consideration. It is no pigmy nor weakling, this newcomer; it has thriven and grown lusty on thorns and stripes, and now it stands sturdily and unabashed in the presence of the representatives of wisdom and with dignity sets forth its claims.

And first, with slight respect for its modern sponsors, it claims for itself an honorable lineage; so ancient that its record is found in the very earliest literature and upon the earliest monuments. It counseled kings, instructed the wise, swayed the fortunes of armies, enterprises and empires thousands of years before modern science was born. Its origin and offices were then reckoned as divine; and its characteristic condition was named the "Sacred Sleep," in which the gods communed with mortals.

Admitted as a legitimate member, to the brotherhood of science, its claims to consideration are both practical and philosophical. As a therapeutic agent, as a hypnotic and anesthetic, as a stimulant to weakened or diseased organs or functions, as a reclaimer and deterrent from inebriety and crime, as a corrector of the wayward, a spur and educator to the feeble intellect and a dispeller of clouds from the obscured and wandering mind, no other single agent at our command can be compared with it. On the other hand, from the higher or philosophical aspect, it is the key to many mysterious, and, by the old psychology, inexplicable conditions or functions of the mind. Chief among these unusual states are *double* or *multiplex personality* and *lucidity* or *clairvoyance*, and it is to these conditions that I would especially invite your attention.

Not until within the past decade has the subject of duplex or multiplex personality been intelligently examined. Indeed, the idea even, of such a condition in any definite form is of very recent date. The philosopher Reid, a hundred years ago, wrote as follows: "My thoughts and actions and feelings change every moment; they have no continued but a successive existence; but that self, or I, to which they belong, is permanent. The identity of a person is perfect; it admits of no degrees and is not divisible into parts;" and while this statement may still express the general consensus of mankind upon the subject, and may in a certain sense be well founded, still certain facts have been observed since that philosopher wrote, which bear strongly upon the subject and are entirely rebellious and refractory to the law which he has enunciated.

The case of Félida X., reported by Dr. Azam of Bordeaux, is one of the earliest to attract the serious attention of students. It is classic upon the subject, and may be briefly stated as follows: As a child she was sickly, moody and hysterical. At the age of 14 years, after a prolonged attack of an epileptiform character, she emerged into a new and entirely unusual condition. Her general appearance was changed, and she talked and acted in a manner quite different from her usual self. These attacks were repeated and became frequent; and the condition lasted for hours and even days together. In her usual state she had no recollection and no knowledge of her second condition or what occurred in it, and the whole time spent in that condition was to her a blank. On the other hand, all the different occasions when she had been in this second condition were linked together, constituting a distinct chain of memories, and a personality just as consciously distinct and conspicuous as her original self.

The two personalities were entirely different in character and disposition; the original one being sickly, indolent and melancholy; while the new one was in good health, cheerful and industrious, perfectly sane and in harmony with her environments.

The second self at length came to occupy the greater portion of the time and to consider herself the chief personality. She married, brought up children and carried on the little business of a shop, all in an efficient and exemplary manner. She knew the original self, but at first not as in any way connected with herself, but simply as another person, and indeed one whom she disliked and dreaded. Later she became acquainted with the peculiar relations which existed, and letters passed between the two personalities relating to their common interests, just as they might pass between two separate individuals. This condition existed many years, and so far as I know still exists.

A second case is that of the Rev. Ansel Bourne of Rhode Island, an evangelist and farmer. He left his home in Rhode Island Jan. 17, 1887, and after transacting some business in Providence he went to Boston, then to New York, then to Philadelphia and finally to Norristown, Pennsylvania, where he opened a store for the sale of confectionery, stationery and other small articles.

In this business he was known as A. J. Brown. He lived in a room at the back of the store; cooking, eating and sleeping there. He went back and forth to Philadelphia for goods to keep up his stock, and conducted his business as if he were accustomed to it. On Sunday, March 13, he went to church and at night went to bed as usual. On Monday, about 5 o'clock in the morning, he awoke and found himself in what seemed to him to be an entirely new and strange place. He could not imagine how he came to be there, but thought he must have broken into the place in his sleep. He waited impatiently for two hours, all the time fearing arrest, and then began to explore his surroundings. He went out into the hall and seeing a door he knocked and was answered by his landlord who accosted him familiarly with, "Good morning, Mr. Brown." "Where am I?" he replied; "My name is not Brown." He declared that he knew nothing of Norristown nor of the stationery business; that he was in Providence on January 17, which he supposed was the day previous, and saw the Adams Express wagons on Dorrance Street; and since that time he had no idea what had transpired. The landlord thought he had suddenly become insane and he called a physician. To the physician he said his name was Ansel Bourne and that he lived in Rhode Island; that the people in whose house he found himself declared that he had been living with them six weeks; for his part, he had never seen one of them until this morning.

His friends were notified; they came on and settled his affairs, and A. J. Brown went back to Rhode Island and resumed his occupation there as Ansel Bourne, but of A. J. Brown, of his journey to Norristown, and of the business which he carried on there, he had not the slightest knowledge.

Dr. Richard Hodgson, Secretary of the Society for Psychical Research, and Professor James of Harvard College, now became interested in the case; they went to see Ansel Bourne and learned the particulars of his strange experience; but of the journey from Providence to Norristown no infor-

mation whatever could be obtained. At length Ansel Bourne was put into the hypnotic condition, when he was again A. J. Brown. He then remembered all about his business at Norristown, and described minutely the journey from Providence to Boston, New York, Philadelphia, and then to Norristown, giving the names of the hotels at which he stopped and the people whom he met—all of which was subsequently carefully verified. He thought he had met Ansel Bourne, but had never known him intimately; and when introduced to the wife of Ansel Bourne, while he thought possibly he might have met her, he very strongly repudiated the idea that she was or ever had been *his* wife. On being awakened from the hypnotic sleep he was again Ansel Bourne with all his usual feelings, opinions and affections, but had not the slightest knowledge of A. J. Brown, nor of the business he carried on at Norristown; and certainly of any good or evil deed which A. J. Brown might have done, he, Ansel Bourne, was absolutely ignorant, and not in any manner to be held responsible.

I have myself reported two cases of double or multiplex personality. One is that of Alma Z. in the *Journal of Nervous and Mental Disease* for September, 1893, the other that of M. M., read before the New York Academy of Medicine Oct. 12, 1888, and published in the *Journal of the London Society for Psychical Research* for December, 1894. An outline of the former case is as follows:

Alma Z. was an unusually healthy and intellectual girl, a strong and attractive character, a leading spirit in whatever she undertook, whether in study, sport or society. From overwork in school, and overtaxed strength in a case of sickness at home, her health was completely broken down and after two years of great suffering suddenly a second personality appeared. In a peculiar child-like and Indian-like dialect she announced herself as "Twoey," and that she had come to help "Number One" in her suffering. The condition of "Number One" was at this time most deplorable; there was great pain, extreme debility, frequent attacks of syncope, insomnia, and a mercurial stomatitis which had been kept up for months by way of medical treatment and which rendered it nearly impossible to take nourishment in any form. "Twoey" was vivacious and cheerful, full of quaint and witty talk, never lost consciousness, and could take abundant nourishment which she declared she *must* do for the sake of "Number One." Her talk was most quaint and fascinating, but without a trace of the acquired knowledge of the primary personality. She gave frequent evidence of supranormal intelligence regarding events transpiring in the neighborhood. It was at this time that the case came under my observation and has remained so for the past ten years. Four years later under depressing circumstances, a third personality made its appearance and announced itself as "The Boy." This personality was entirely distinct and different from either of the others. It remained the chief alternating personality for four years, when "Twoey" again returned.

All these personalities, though absolutely different and characteristic were delightful each in its own way, and "Twoey" especially, was and still is, the delight of the friends who are permitted to know her, whenever she makes her appearance; and this is always at times of unusual fatigue, mental excitement or prostration; then she comes and remains days at a time. The original self retains her superiority when she is present and the others are always perfectly devoted to her interest and comfort. "Number One" has no personal knowledge of either of the other personalities but she knows them well, and especially "Twoey" from the report of others and from characteristic letters which are often received from her, and "Number One" greatly enjoys the spicy, witty and often useful messages which come to her through these letters and the report of friends.

Here are three cases in which a second personality —perfectly sane, thoroughly practical and perfectly in touch and harmony with its surroundings, came to the surface, so to speak, and assumed absolute control of the physical organization for long periods of time together. During the stay of the second personality the primary or original self was entirely blotted out, and the time so occupied was a blank. In neither of the cases described had the primary self any knowledge of the second personality, except from the report of others or letters from the second self, left where they could be found on the return of the primary self to consciousness. The second personality on the other hand, in each case, knew of the primary self, but only as another person—never as forming a part of, or in any way belonging to their own personalities. In the case of both Félida X. and Alma Z., there was always immediate and marked improvement in the physical condition when the second personality made its appearance. Several other well authenticated cases are on record showing the same or a corresponding series of phenomena.

These phenomena are altogether too marked and uniform not to have a *meaning*, and not to be influenced by some common law or bond; they are no psychologic comets wandering off into space, or in orbits which it is impossible to determine; they must belong to some system, governed by laws which it is possible to study and determine; and it is important to examine closely the psychologic firmament and study the phenomena there discoverable in order to gain what light and aid we may in determining the law by which they are all governed. The first series of phenomena presenting analogies with those we have already examined is that connected with somnambulism; and here the analogies are most striking. As in the cases above described so in ordinary somnambulism, first, the primary consciousness is blotted out—in sleep; second, another consciousness or personality takes control of the physical organization. Third, the different occasions upon which the somnambulist walks or performs his physical or mental work are linked together in one common chain of memories—that which he thinks and does to-night is generally a continuation of the thoughts, scenes and events of last night or the last attack of somnambulism—altogether constituting the action of a personality just as consciously distinct as the personalities already described, only of short duration. Evidently here is another planet of the same system, revolving in a similar orbit and governed by the same central influence.

Looking again, we come upon the interesting and now well known case of Madame B., observed by M. Pierre Janet, of Havre, and Dr. Gibert, also a leading physician of the same city, and reported in the *Revue Philosophique* for March, 1888. It presents a remarkable instance of distinct personalities brought into action by means of hypnotism. A brief resumé seems necessary:

In her ordinary state Madame B. is a stolid, ignorant, but substantial and honest French peasant woman about 45 years of age—very modest and retiring, and without the slightest desire for notoriety. In this ordinary state M. Janet calls her Léonie. Hypnotized, Léonie is at once changed into a youthful, vivacious, mischief-loving and rather noisy personality who considers herself on familiar terms with the doctors, banters and jokes with them, and whom M. Janet names Léontine. Later, and by further hypnotization and a deeper trance, there appears a sedate personality—intellectually much superior to Léonie and much more dignified and sensible than the vivacious Léontine—and this third personality M. Janet calls Léonore.

Madame B., the original or primary self, knows nothing whatever of either Léontine or Léonore, and the time they occupy is to her a blank. Léontine, however, knows Léonie, the original Madame B., very well and is anxious not to be confounded with her. She always calls her "the other one," and laughs at her stupidity. She says, "That good woman is not I. She is too stupid." Léonore, the third personality, knows both Léonie and Léontine, and is equally anxious not to be mistaken for either of them. Speaking to

M. Janet of Léontine, she says: "You see well enough that I am not that prattler, that madcap; we do not resemble each other in the least."

Madame B. is married, but Léontine is not; but at her accouchement Madame B. was hypnotized, and so Léontine was present; consequently Léontine has two children of whom she is very fond, and she would be very much hurt if her right of motherhood were questioned.

It is evident that we have here still another planet in our system, moving in a similar orbit and guided by the same central influence as those already examined. What is this central idea which dominates the phenomena that we have been considering?

We find a certain definite series of phenomena presenting themselves under three distinct conditions:

1. A change from the ordinary or primary condition to a second and entirely different condition, brought about by illness or other physical causes.

2. The same change of condition occurring in ordinary sleep and known as sleep walking or somnambulism.

3. The same changes brought about experimentally by means of hypnotism—as in the case of Madame B., and also that of Ansel Bourne.

Of each of these three conditions, under which this change occurs, I have had well marked examples under my own observation, and I have carefully examined the literature of other reported cases, and they all present the same essential characteristics. The cases are now too numerous and the phenomena exhibited are too distinct and in too perfect agreement to allow of reasonable doubt regarding the facts themselves, or of their *identity* under all these different circumstances. The phenomena which are present in each case are such as to indicate the appearance of an entirely new and independent personality. The thoughts, actions, feelings, opinions and even the facial expression and essential character of the second personality are utterly different from those of the primary self. Such a marked change occurred in the case of Félida X., of Ansel Bourne, and Alma Z.; it also occurs in many cases of somnambulism and also when the change is brought about by hypnotism. The statement of all these second personalities themselves so far as it goes, corroborates the same inference. The primary personality knows nothing of the second or succeeding ones. The second personality in every case declares its absolute independence, is anxious not to be confounded with the primary self, and gives good and substantial reasons for that desire.

Again, the submerged second personality sometimes shows its power to act independently, while the primary self is also in full and conscious activity. This power was shown in the case of Alma Z. and also in M. Janet's subject, Madame B.

Such are the facts. What is the theory which best coördinates them?

I am fully aware of the infinite scorn with which the school of physiologic psychologists look upon experimental psychology, and upon any theory in psychology which is not based in physiology; but when Carpenter, the apostle of that school, could offer no better theory to explain a coherent message automatically spoken or written, than "unconscious cerebration" and "unconscious muscular action," and when Wundt, its latest expositor, teaches that the usual cause of dreams is indigestion, that sleep-walking like dreaming "has no mystery about it," that "the popular belief in premonitions by dreams we need not stop to consider," and that "such superstitions as telepathy and clairvoyance are not even open questions;" we know that we are seeking explanations from men who accept or reject facts according to the influence they may have upon their own theories, and that they are useless as guides in this region because they have never themselves traversed it.

A theory is only a view taken by the mind in its efforts at an explanation; and it is valuable only as it coördinates and brings into a harmonious system the facts under consideration. It is evident that no theory of "unconscious cerebration" can cover the facts in the case of Ansel Bourne, where a perfectly conscious personality, unknown to Ansel Bourne, for six weeks carried on a business with which he, Ansel Bourne, was totally unacquainted, and carried it on in a perfectly sane, consistent and business-like manner. The facts will not come into line nor harmony under any such theory. The theory of an entirely foreign personality carries us far afield and we do not find any necessity for accepting it, even allowing it to be sufficient. Of the two theories we must choose the one most reasonable and in best accord with already known facts.

The theory of a subliminal self or double personality covers and includes not only all the facts which we have examined, but many others equally inexplicable by the old psychology.

Accepting then, provisionally at least, the theory of a subliminal self, without discussing the various questions which might arise regarding its origin, constitution, and its degree of independence of the primary personality—matters which alone would require a volume, let us glance for a moment at other ways in which it is manifested and consider any new or enlarged faculties which it may possess.

Somnambulism has already been referred to as a condition in which the subliminal self is the ruling personality and in which the body acts under the control of the subliminal intelligence; but the subliminal self is also often present in sleep when the body is passive, and in that condition we have *dreams*.

This is not the time nor place to discuss the general subject of dreams, intensely interesting as that subject is, but we are seeking further conditions and instances in which there is evidently mental action which is shut off from the primary intelligence and corresponds to the conditions already examined. Such a condition is, sometimes at least, presented in ordinary sleep and the dreams which accompany it. Allow me to describe a case under my own observation:

L. M., 35 years old, unmarried, has been my patient for the past fifteen years and has been a somnambulist from childhood. She is also psychometric, possessing the faculty of perceiving the character and surroundings of those with whom she comes in contact; also when entering a room where persons are sick, she is strongly impressed regarding the result of the sickness. These impressions do not come at her desire, but absolutely independent of it, and often in direct opposition to it; sometimes they are extremely vivid, amounting to visual perceptions, and then they seldom fail of being correct. She has always considered this faculty a great nuisance, and whenever she has made known these impressions she has been ridiculed by her family. Her dreams are equally vivid, true and sometimes prophetic. The more vivid ones she does not call dreams, but says: "When I *dream*, I *dream*, and when I *see*, I *see*." The following is one of her vivid dreams:

She had a friend in one of the principal towns of the Rocky Mountains—a region which she had never visited, and of this man's surroundings she knew absolutely nothing.

One night she dreamed of, or as she expresses it *saw* this man in a room in the town where she knew he was living. With him was another person of very marked appearance whom she minutely described. She also described the room, its furniture, the bed, the matting upon the floor, the situation of the two people and the conversation. He was saying to his companion: "I am going to New York for the purpose of influencing capitalists to invest in my scheme of irrigation." His companion ridiculed the idea. He persisted in the declaration of his plan and intentions.

Three weeks later, early one morning, she dreamed she saw this man coming up the street in New York leading to her house, and saw her father go forward to meet him. She immediately awoke with the impression strongly upon her, went to the window, threw open the blinds and there was this man coming up the street, having just left the train from the West, and her father was going forward to meet him. He came into the house. She related to him her vision, to the most minute particulars of time and circumstances—some of which were not agreeable for him to hear. He was thunderstruck—declared she must have been present, as no one not actually present could have given the particulars which she described—and he advised her, as she expressed it, to "go into the business."

This person has been known to me for more than fifteen years. Her whole life has been one of industry, absolute truth and self-sacrifice. She is efficient and practical to a remarkable degree, and absolutely free from romance or flightiness.

Wundt declares that cases where somnambulists are alleged to have done mental work in their sleep beyond their powers when awake is simply a fiction, and that no such cases have been reported by "competent observers." This woman was a costumer, and has been employed by several leading firms in New York in that capacity. She affirms that on several occasions, when planning a costume, she has been utterly unable to carry out her idea in detail and has been obliged reluctantly to abandon it; when at night, in sleep, she has seen the whole idea perfected in every detail, and so vividly that she was able to carry it out with perfect accuracy the following day.

Instances are numerous where the dream was of some particular event which was really transpiring at the very time of the occurrence of the dream. Those most marked and interesting occur during times of excitement and danger, and the dreamers are quite likely to be children, or those to whom the events dreamed of were unfamiliar.

Many such cases have occurred in England during her wars with India. The following have been thoroughly examined by the Society for Psychical Research. The first occurred during the siege of Lucknow.

A girl 13 years old, had a brother in the East India Company's service in a regiment of infantry. One night she dreamed that she saw her brother riding with other officers at the head of a *mounted* regiment. It was not in battle but on a march. She saw her brother suddenly fall from his horse, shot down and mortally wounded. She described the place, the buildings in sight and the people around him. It was all written down at the time by her aunt who had the care of her. Five years later the officer who was at his side when he fell, visited the family and, at the request of the aunt, related all the circumstances connected with the brother's death, which corresponded in every particular with the record of the dream.

A lady whose husband was engaged at the siege of Moultan, one morning, in a condition of reverie between sleeping and waking, saw him fall desperately wounded; she saw the circumstances connected with removing him from the field, which were peculiar on account of delay, and saw him take a ring from his finger and give it to a brother officer, saying: "Take this ring and give it to my wife." The whole scene was in reality being enacted exactly as she saw it, and at that very moment, 200 miles away.

Another child, 8 or 9 years of age, not asleep but playing with other children in the grounds of the officers' quarters in England, saw her father, who was in India, lying under a tree, bleeding and dying from a wound in his head. She described his position, appearance and the location of the wound—was fearfully agitated, and wondered that the other children did not see it. Her father was actually at that moment dying in India and under exactly the circumstances which she described.

I give these examples of the action of the subliminal self in ordinary sleep, in reverie, and in sudden vision while in the waking state. The almost indefinite multiplication of parallel cases which have been abundantly verified would be easy, did time permit. They all fall into line with the cases already presented, with the addition of certain perceptive faculties or powers exhibited by the second personality, not possessed by the primary one. A hasty survey of these added powers of perception is necessary to our subject.

Clairvoyance is still looked upon with suspicion by those who are anxious to maintain a reputation for scientific orthodoxy; and it is so looked upon because there is no method recognized by science for accounting for it. The only vision known to science is that obtained by means of the physical eye; all other alleged visual perceptions are set down as illusions and figments of the imagination; and when they correspond to actual events they are explained by pronouncing them "coincidences." Taken as a phenomenon, apart from any theory as to its production, no fact is better established in the minds of those who have had opportunities to observe, than the fact of clairvoyance. Those who have never witnessed it have a right to doubt; but the testimony of those who *have*, should be respected. It is at least bad taste—it is worse—it is bad *method* to impugn either the honesty or capacity of those who have witnessed a fact, especially when the observers are educated and trained in proper methods of observation.

The argument for clairvoyance is threefold. There is: 1, the anthropologic argument which points out the singular fact that alleged instances of it occur and have occurred among every people of which we have any knowledge, no matter how different in degree of development, environments, climate, comfort, nor how widely separated in locality. 2, there is the historical argument which shows that in the literature of every nation which has a literature, from the dawn of letters to the present time, accounts of clairvoyance are found. 3, there is the argument from personal evidence; educated clear-headed men who have had special opportunities to observe this fact, and whose testimony on any ordinary subject would be received, declare that they have seen instances of it; and hundreds of cases on that sort of evidence are on record. Important and full of interest as they are, the anthropologic and historical arguments must be omitted in this hasty examination and only those from personal evidence will be briefly presented.

The *Sociétié de Psychologie Physiologique* was organized in Paris in 1885, and was for several years presided over by Charcot. Its bulletins were published in the *Revue Philosophique*. Dr. Dufay, of Blois, during this time presented to this society two separate reports on clairvoyance, which had come under his own observation—one related to his experience with Marie, a servant and hypnotic subject of Dr. Girault, another prominent physician of the same city. In one instance when hypnotized, she suddenly stopped in some sprightly conversation in which she was engaged, burst into tears and became so weak that she had to

be supported; and when asked what troubled her she replied that she saw the son of a near neighbor, and a friend of hers, then serving in the Crimea, and that he was dead—that he had just drawn his last breath. When news arrived, it was that this young man had died exactly at the time Marie had seen him. On another occasion she read the contents of a letter which Dr. Dufay had just received from a military friend in Algiers, and had not yet opened. Then at the earnest request of her hypnotizer she went, in her second personality to Algiers, described the correspondent, said he was ill, described his disease and described his surroundings; all of which on opening the letter were found to be perfectly correct.

Dr. Alfred Backman of Kalwar, Sweden, has been fortunate in finding several clairvoyants among his patients. Results obtained with two of these are given in the proceedings of the Society for Psychical Research. While in the hypnotic state, either one could go far away, wherever directed, and describe scenes and events of which she could have no knowledge—some of which were known to the hypnotizer and some were an entire surprise to him—all of which, however, proved to be perfectly correct.

Richet has given many interesting experiments conducted by himself, and Mrs. Sidgwick of the Society for Psychical Research, has published a large collection of carefully sifted and verified cases.

I have, myself, during the past year found a very excellent subject whom I will call A, whom I first hypnotized on account of illness, but who afterward proved to have psychic perception and clairovoyant powers of a remarkable character. Once while in the hypnotic condition, I asked her if she could go away and see what was transpiring in other places, as for instance at her own home. She replied that she would try. I then told her to go to her home—in a small town 300 miles away and quite unknown to me—and see who was in the house and what they were doing. After a minute of perfect silence she said: "I am there." "Go in," I said, "and tell me what you find." She said: "There is no one at home but my mother. She is sitting in the dining room by a window; there is a screen in the window which was not there when I left home. My mother is sewing." "What sort of sewing is it?" I asked. "It is a waist for D," (her little brother). I wrote down every detail of her description, and then awoke her. She had no recollection of anything which had transpired. I then showed her the notes I had made of her visit to her home, and desired her to write at once to her mother and ask who was in the house at 4 o'clock this same afternoon, where she was, and what she was doing. The answer came, describing everything exactly as set down in my notes.

On another occasion when I made my visit, it happened to be the day of the races occurring at a well-known track some ten miles away, and members of the household where she was residing had gone to witness them. Neither she nor I had ever attended these races—we knew nothing of the appearance of the place, of the events that were expected nor even of the ordinary routine of the sport. She was put into the deep hypnotic sleep, and thinking it a good opportunity to test her clairvoyance, I requested her to go to the grounds and I carefully directed her on her journey. Once within the inclosure she described the bright and cheerful appearance—the pavilion, the judge's stand and the position of persons whom she knew. She said there was no race at the time; but that boys were going around among the spectators and getting money; that the people seemed excited, that they stood up and held out money, and beckoned to the boys to come—but she did not know what it meant. I suggested that perhaps they were betting. She seemed to look carefully and then said: "That is just what they are doing." She then described the race which followed, was much excited, and told who of the persons she knew were winners. I then said: "You will remember all this and be able to tell M, when she comes home."

It was found that everything had transpired as she had described. One of the races had for some cause been a failure; all bets were cancelled and new bets were made, which caused the excitement which she had witnessed. She surprised those who were present by the accuracy of her description, both of the place and the events.

I once asked her: "Who is it that goes away ten, twenty or three hundred miles and sees what is transpiring there—is it A?" "No," she replied laughingly, "A is here sick in bed; she can't go; it is I who go." "Well, are not you A?" "No." "But do you not belong to A in some way? Are you A's double?" She replied eagerly: "Yes, that is just what it is."

I once asked her how she traveled on these journeys. "I go so fast," she said, "and I see everything below me. It is perfectly lovely." Once she said: "I am passing through a shower; you will have it presently." The sun was shining brightly at the time; five minutes later came a cloud, a dash of rain lasting a minute or two, and then sunshine again.

There can hardly be a doubt regarding the fact of supranormal visual perception of some sort in the numerous cases reported by the observers whom I have mentioned. There certainly can be no doubt but that the scenes and events minutely and correctly described by some of these persons were entirely beyond the reach of vision by means of the physical organ of sight. We must either exclude the facts, or else accept some method of visual perception other than that of normal sight.

Some, usually those least acquainted with the subject exclude the facts; some, usually those having a competent knowledge of the facts find it impossible to exclude them. Those in the latter class endeavor to explain the facts by various methods. Telepathy, a psychic medium, a sixth sense, or some magnetic agency are all invoked for this purpose; but all these theories are themselves hypothetical and unproven, and they are called into existence only for this one special service. They are all like the cycles and epicycles of the old astronomy—clumsy and unsatisfactory.

To see at a distance of 300 or 3,000 miles, through closed walls or at the bottom of deep rivers requires a *personality*—one with perceptive faculties capable of acting under the given circumstances, and able to report what it sees. The primary or ordinary personality is not so endowed—its powers of locomotion and of vision are both limited.

The subliminal self can, as we have seen, under circumstances at least, act independently of the physical organs, can traverse great distances in a short space of time, can see under circumstances in which ordinary vision is impossible, and what it sees, it is able to report—or impress upon the perceptive organs of the primary self. All this has in many instances

been actually observed, in somnambulism, in dreams and in the hypnotic sleep.

Accepting this subliminal self with its added perceptive powers, brought into activity, sometimes spontaneously and sometimes by the aid of hypnotism, we are furnished with the key, not only to every form of intelligible automatism—automatic writing, trance speaking, hallucinations of hearing (such as were experienced by Socrates, St. Paul and Joan of Arc), phantasms and apparitions—but also to nearly the whole range of accredited phenomena pertaining to spiritualism, without trespassing at all upon the domain of supernaturalism.

These, then, are our conclusions:

That there *does exist*, probably in each one of us, a *subliminal self* or *second personality*, which is able to act at great distances from the physical body, and which is endowed with perceptive powers far exceeding those of the primary self.

That clairvoyance is an attribute of the subliminal self; and in that view is perfectly reasonable, natural, and a proper subject for scientific study.

That hypnotism is a means of experimentally bringing this subliminal self into action.

It is in no spirit of dogmatism, however, that I bring forward these facts and theories; but sufficient facts have now been accumulated from many trustworthy sources, to make it desirable that intelligent thought should be bestowed upon them; and it is with the hope that greater definiteness may be attained in this work—so important as it seems to me, to men in our profession—that I have ventured to draw your attention to this subject.

HYPNOTISM IN THE MANAGEMENT OF INEBRIETY.

Read in the Section on Neurology and Medical Jurisprudence at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

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The impression that the continuous use of alcohol is followed by hyperesthesia and increased sensitiveness and susceptibility to the surroundings is not true, only in exceptional cases. All inebriates who use alcohol, opium, or other narcotic drugs, have diminished susceptibility and impaired sensory activities, extending from slight defects to general paralysis, not only of the functional but organic activities, and extending to the entire organism.

The inebriate is a neurotic, and irrespective of all first causes suffers from starvation and poisoning. The power of control, of reason and discernment, is defective, and beyond all outside influences is swayed by the unknown impulses of a degenerate and defective organism. The power of a dominant idea lasts only as long as it is not in sharp conflict with the morbid impulses of degenerative process.

The neuroses of inebriety is practically paralysis, not of one part of the body, but of the entire organism. If the hypnotic state is pathologic, and the three special phases, lethargy, catalepsy and somnambulism, are common symptoms, it is clearly possible that the narcotic effects of these drugs may favor these conditions. But in reality the lethargy and catalepsy from poisons introduced from without, and formed within the body, are controlled by conditions that are largely unknown and unforeseen. From inference it seems clear that any defect or disease of the nervous system in which the excessive use of drugs is a symptom, follows a different line of degeneration from that called hypnosis. In one case, general organic degeneration exists; in the other, the power of control is broken up, and follows suggestions from without. Of course no state of poisoning from any of the drugs used in inebriety will permit the power of hypnotic influence to dominate the acts or conduct of the case. When the poisonous effects of the drug have passed away, then the unstable nerve centers will respond to external influences in various degrees.

If hypnotism is a physiologic state resembling sleep, and not an abnormal condition—only a peculiar susceptibility to certain external influences—it would seem that the inebriate seldom would, if ever, be affected by it. The observed facts vary widely, and are not sufficiently clear or well-attested to form the basis of any authoritative conclusions. The few observers in this special field have not found the same conditions even in the same cases; and at different time widely varying degrees of susceptibility have been noticed. On the cessation of the drink paroxysms or when from any cause the person abstains from drink, the reaction is followed by a period of psychical weakness. In some cases intense melancholy, or hyperesthetic sensitiveness, and fears of their condition, are fertile fields for hypnotic influence.

At this time, there is a degree of prostration and absence of assertive will-power, with strong tendencies to depend on any influences which will afford help. Good illustrations are seen in temperance revivals, where at the command of the enthusiastic orator they go forward and sign pledges, make prayers, recite experiences and assert positive changes of life and character. These are hypnotic phenomena along coarser lines, and their potency is apparent in the very small number of cases that are permanently benefited. In these cases the inpression of a dominant idea has become so fixed as to overcome all other tendencies to use spirits again. Personal counsel, advice, threats and appeals are followed by the same obliteration of the drink symptom in an equally small number of cases.

The inference is that at this period in the progress of inebriety, hypnotism skillfully applied may have a marked value. Experience differs widely, and the power of a controlling influence one day is lost the next; and the idea that seems so strongly held at one time disappears later. The case which appears to be controlled by the operator, suddenly breaks away and the theories are disproven. There seems to be a struggle between the morbid impulses of a degenerating brain and organism, and the power of suggestive thought. The latter appears to be both physiologic and pathologic. Physiologic when the brain naturally turns for guidance and direction to others, and readily accepts statements of facts which are presented in an emphatic way; and pathologic when suffering from adverse conditions and seeks relief in the promises and suggestion of others. The power of hypnotism in the reactionary state of inebriety is apparent in many ways, although not explained or understood, and the permanency of this control is still more obscure. The same power in cases who are away from this period, and are termed restored, used to prevent them from taking spirits again, is equally obscure. In one instance this power gave the inebriate a special repugnance to drink in

a certain old circle of friends, but did not stop him from drinking alone. In another case, he claimed he could not drink in his native city, but drank in a distant town. The power of suggestion that one can not drink again, may hold intact for an unknown period, but its permanency depends on the degree of physical vigor and health, and other influences. This is illustrated in the gold cure specifics. The profound impression made on the organism by narcotic drugs, is strengthened by the hypnotic force of a dominant idea; spirits can not be taken again. This in a certain number of cases is real, as long as the person gives unusual care to his physical condition. If curiosity tempts him to test this statement, the delusion is quickly exposed.

It appears clear that hypnotism is a power in the treatment of inebriety, but its application is limited to cases not under the influence of spirits or drugs. It is not clear that these cases can be so positively controlled, or that command or suggestion will last as long as in other cases. Evidently clearer and more exact studies are necessary on this topic.

Profound hypnosis that is continued from time to time on inebriates varies widely in its action. Some persons assert that its influence is permanent, others say it depends on the presence or proximity of the operator. It is natural to expect that a knowledge of the presence of the operator, and a repetition of the power of control would finally become dominant, to the extent of superseding all other morbid impulses, and in this a cure could be said to follow. It would be a question, whether the susceptibility to hypnotic influence, frequently repeated, is a pathologic condition resembling that which follows the degeneration caused by spirits.

In a case mentioned by Dr. Kerr, in the free intervals from drink in a paroxysmal inebriate, hypnotism was sought and enjoyed. The man was hypnotized often, and the idea that he could not drink, impressed on his mind. He was used to show the power of hypnotism on many public occasions. This was kept up for a long time, until the operator moved away, when the man relapsed. This illustrated the fact observed in other circles, that the frequent hypnotic action will take the place of spirits, and is a condition that is akin to intoxication, and in some cases may be agreeable to the person. I have frequently been conscious of a personal hypnotic influence over certain cases of inebriety which was effectual in restraining them from drink at the time. In all institutions a certain small number of cases never drink in and about the building, irrespective of all conditions. Such cases come and go without restriction, but when away from the institution and its influences, relapse at once. It would appear that both managers and the institutions exercise a hypnotic power which enables the person to keep from drink. The same principle explains the power of faith and prayer asylums, where a dominant idea is urged with great intensity and impulsiveness, and for the time being is made to absorb all other thoughts. In this way the morbid drink impulse is overcome by a class of different ideas, which for the time break up every other thought. This condition has reactions, and the men who are most emotional and absorbed by the suggestions of help and salvation, unbend in private, displaying very opposite traits. This is evidence that the power is hypnotic and depends largely on the operator and the surroundings. It will be accepted as a fact that inebriates are less susceptible to hypnotic influence, and such influence is more transient and uncertain in its duration. Yet this is a power of great therapeutic value in an institution where it can be repeated and made continuous, and where the surroundings are under the control of the operator. To apply it practically it may not be necessary to at once dominate the will of the patient and overwhelm his personality, in abject submission to another's will, only in certain cases. But in all cases the dominance and continuous pressure of suggestion are the essentials. Suggestions that can be carried out and enforced by conditions of surroundings.

By studying these influences on susceptible cases, and forcing their recognition suddenly or slowly, a power of control is built up of practical value. A certain number of inebriates are most clearly held under restraint by the hypnotic influence of certain persons closely associated with them. The death or removal of these persons is followed by a breaking out of the drink impulse.

The special question to be answered is this: have we in hypnotism a therapeutic power of sufficient general application, in the treatment of inebriety and drug narcotics, to demand a technical knowledge of its application and use? It appears that we have. Irrespective of all theories of either the pathologic and physiologic action of this force, its power over the brain centers is assured and demonstrable. As an anesthetic, its application in many cases has attracted great attention, but how far it can be used to control unstable and psychical diseased brain centers is not well understood. It would seem that from the evidence so far, its power in the treatment of inebriety should be utilized in all cases. The operator should first become familiar with the technique, and the general principles of its application, and then put it to practical use and test, the same as any other therapeutic agent.

So far, it would seem the best results may be expected in an institution where the operator can command the surroundings and conditions of the patient. The complexity of all cases of inebriety would most naturally increase the difficulties in the treatment, especially in the application of psychic remedies, and favorable results are not to be expected in the same proportion or degree as that which follows other means. The fact that a few cases are greatly benefited is the strongest encouragement for its more extended use.

In a summary of what appears to be the sound conclusions of the present knowledge of this agent in inebriety, the following may be stated:

1. The inebriate is a neurotic, and not a good subject when under the influence of spirits and drugs for hypnotism.

2. After the withdrawal of the drugs, a period of marked instability seems most favorable for suggestions. This will be transient unless followed up with persistence.

3. Experience points to the wide extended influence of hypnotism in inebriety, although not known as such, in the psychic forces of public meetings, and the power of dominant ideas impressed with emphasis on the mind.

4. Clinical experience furnishes many facts which seem to prove that in certain cases its value is very marked, also promising from more exact studies greater results.

5. Evidently, hypnotism is yet to be studied and tested by the same methods applied to all therapeutic agents. So far, its value in inebriety is established, to what extent and how far it can be used are to be settled by future observers.

PSYCHO-PHYSICS OF SLEEP—NATURAL AND INDUCED.

Read in the Section on Neurology and Medical Jurisprudence at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

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In order that we may more closely follow the line of thought, to succeed let us briefly recite the phenomena of natural sleep.

Sleep is preceded by a feeling of drowsiness accompanied by a general feeling of heaviness and intellectual dullness. There is also a feeling of weariness of the eyes and a tendency to drooping if not actual dropping of the eyelids. The head nods and the individual rouses and yawns and if he is in a sitting posture he seeks a position more comfortable for repose. If the person is in a reclining position, various groups of muscles may at this stage of semi-consciousness present the phenomena of spasmodic contraction; the drooping head is raised with a jerk and the contracted limbs are straightened and the whole body assumes a position of complete relaxation.

The sensory organs, barring that of touch, are still active,—the sense of hearing being quickened if anything. The eyes close and one after another the senses become inactive and the intellectual faculties become clouded. The objective mind, no longer in contact with its surroundings, ceases to operate, the subjective mind has full sway and the logical association of ideas comes to an end. The sleeper is in dreamland and is no longer astonished at the vagaries of memory or imagination.

The number of respirations drops from eighteen to twelve or fourteen per minute, and changes to a costal character, and the quantity of air drawn into the lungs is materially reduced by reason of the diminished action of the diaphragm.

The temperature is reduced quite markedly and many persons suffer from coldness of the extremities during sleep, due to lowered heart action.

The powers of volition next cease and the sleeper is, to all intents and purposes, for the time being paralyzed. There are, however, degrees in the profundity of sleep. Only the few are entirely oblivious to their surroundings. Most healthy people are what are called, light sleepers,—sleep with one eye open, as it were, and even with the soundest sleeper the duration of profound sleep is brief, not extending over two hours at the farthest.

Few persons are capable witnesses upon this subject, simply because it is not their custom to take observations on the phenomena of sleep—they do not lie awake to see.

The period of sleep depends upon the individual and his surroundings and needs. As we pass through dreamland in going to sleep, so does it form the portal to the waking state. Our memory of these hallucinations is vivid or otherwise as we dwell upon them. Most healthy persons allow them only a passing thought and pass them by. This is an utilitarian age and the dreamer has considerable difficulty in finding an audience. "Never tell your dreams until after breakfast" is an old adage that if followed is fatal to dreams, so evanescent are they.

A recent writer, Lyman, says: "Sleep may be defined, in general terms as that state of the central nervous system in which the higher centers are, to a great extent, in a condition of physiologic quiescence, with all the consequences thereby implied." There has been much discussion as to whether sleep is a cerebral anemia pure and simple, or whether its whole nature is expressed in the term "ganglionic exhaustion." The same author says "there are others, who, while recognizing in experimental results undeniable proofs of the anemic condition of the brain during sleep, still persist in perceiving only one of the collateral and unimportant effects of ganglionic exhaustion. To corroborate this most gratuitous assumption of the unimportance of the position which anemia occupies among the causative factors of sleep, they have cited the observation that gourmands frequently sleep after an enormous meal, their red and swollen features meanwhile bearing ample witness to the condition of cerebral hyperemia." The flushed face, however, is no sure criterion of cerebral congestion. Dyspneac blood stimulates the vasodilator nerves as well as the vasomotor nerves, and as a consequence the cutaneous system may be flushed while the internal organs are anemic, by reason of the contraction set up by the stimulation of the vasomotor center. They forget also that there is a vast difference between a condition of partial stupor engendered by such causes and the physiologic sleep which the laborer enjoys after a day of toil.

Webster says: "It is a natural and healthy, but temporary and periodical suspension of the function of the organs of sense, as well of those of the voluntary and rational soul; that state of the animal in which the senses are more or less affected by external objects and fancy or fantasy only is active."

Our definition for sleep would be something as follows: sleep is a condition of restful repose during which there is complete relaxation of the muscular system with lowered heart action, accompanied by recuperation of vital, nervous and other bodily forces.

Lyman also holds that the term sleep, when employed to designate more particularly a condition of rest of the central nervous system is closely allied to that which prevails during activity in certain tissues which are subject to periodical exacerbation and diminution of function; as, for example, the glands. The temperature in these structures is found to be much lower during rest than during functional activity. It has also been observed that the temperature of muscles is higher during activity than during rest. Now, a rise in temperature among other things, means the conveyance of an increased amount of oxygen to the tissues within a given length of time, or, in other words, a condition of physiologic hyperemia. "Inversely, rest takes place in the tissues as a consequence of reduced oxygenation and interplasmiatic exhaustion." "That ebb and flow of brain activity (and of the cerebral circulation in consequence) transpire under normal circumstances like other similar manifestations of organic life, in synchronous harmony with the rising and the setting of the sun is proved by the fact that sleep during day time, after a night of activity, is not, and never can be made to be as refreshing as that indulged in after sunset."

Just what influence the diurnal motion of the earth

has to do with the interganglionic ebb and flow of the vital forces, I am unprepared at this time to say, but that more credit has been given to this force in the past than should be, seems likely in the light of our present knowledge of physiologic chemistry. That sleep is, in a large per cent. of cases, the result of "interganglionic exhaustion and cerebral anemia" combined, I am free to admit, but no one who has made much of a study of the phenomena of sleep in the healthy state and especially in children but will admit that there are other elements than these that produce sound refreshing sleep, and *that* in the day time also.

Sleep is the natural state of rest for the tired physical or mental organism, but why do infants, animals and men that are not actively engaged sleep? They do not need sleep from the same cause as their more industrious brothers. No; another line of causative phenomena must be introduced to account for sleep in a large per cent. of cases and that, according to my way of thinking, is found in suggestion.

Let us take a familiar example to be found in the habits of the common barnyard fowl. They go to roost and rise with the setting and rising of the sun. That this is a matter of habit is shown by the fact that they go to roost whenever an eclipse of sun occurs, no matter what the time of day. There are several ways of explaining this habit. In the first place, not having any means of producing light they find their occupation gone with the setting of the sun and they have nothing to do but to retire; then again, their enemies are night prowlers and the fowl find their greatest safety in retirement. These experiences have fixed the habit until it has become a second nature with them and all the feathered tribe. Pet canaries, however, have to be covered in order to protect them from the light and induce sleep.

If the theory of solar control of vital forces were the correct one, why do not all animals sleep at night and not, as is the case with many of them, make that their period of greatest activity? It would appear that the most vigilant and active forms of animal life, in its native state, turn night into day. It would therefore seem that habit and necessity are the principal factors in determining the time when nature shall take repose. The night prowlers and day sleepers among the brutes seem to flourish in proportion as their nocturnal vigilance is successful, their forced day naps to the contrary notwithstanding.

In order to understand how the habit of retiring with the sun or shortly thereafter came to be formed by modern man, it is only necessary to go back in history to more primitive man before he had any means of producing light and credit the same conditions that send the feathered tribe to its roost, to-day, with driving him to his cave and to sleep. One-half or more of his time was then spent in enforced retirement and sleep, but with the advent of artificial light the wakeful period has been lengthened until now the average city man spends less than one-third and even as little as one-fourth of his time in bed and yet seems to get along all right.

If he suffers from insomnia it is not from loss of sleep, as is popularly understood by many, but by a disordered nervous system that prevents sleep. Who ever heard of a case of insomnia in an otherwise healthy child or adult either, for that matter, that could not be explained on the ground of a disordered mental or physical system?

The idea that brain rest can only be obtained during profound sleep is wholly erroneous. It is not essential that a person should lose consciousness in order to rest, and although complete relaxation is essential, it may be obtained in the waking state, and is now taught in all our schools in connection with physical culture exercises.

The facts in the case are that most people sleep too much. Some of our most noted men have been very light sleepers. History tells us that Napoleon needed very little sleep. He could catch a ten minute nap in the presence of kings or princes, or in the saddle whenever he needed it and willed so to do. The wizard of Menlo Park works days at a time and revives his strength by "cat naps" and says, judging by his own experience: "No healthy person requires more than two hours sleep a day, and that there is no excuse for people not utilizing twenty out of twenty-four hours for study or work of some kind." All of which I firmly believe. A few minutes sleep at the right time, that is, when one begins to feel weary, is worth hours when one is completely exhausted.

The benefit derived is not alone from the sleep, but the relaxation that takes place and the lowering of the frequency of the heart's beats. A man's span of life is not measured by the tick of a clock but by the beat of his heart. Anything, then, that will keep down the tension of the vascular system to normal, will, everything else being equal, tend to lengthen his days. During sleep the rapidity of the heart's action is appreciably modified. This is due in some degree to the position assumed. There should be a difference of ten beats per minute between an erect and recumbent position in a healthy person and even more in nervous irritable people.

In children there is a marked difference between the waking and sleeping state. Trousseau examined a number of children and found the waking pulsation 140 sleeping 121; not only this, but the frequency of the respirations is considerably diminished and oxygenation and tissue changes take place less rapidly and consequently nutritive processes are reduced, especially in the brain, unless unconscious cerebration or dreaming is carried on during sleep.

It has, for many years, been generally admitted among scientific observers that there is diminished blood supply or a condition of anemia of the brain during sleep. It has long been observed that the fontanelles in infants are depressed during sleep but pressed open when wakened. Arthur L. Durham (1860) demonstrated the marked contrast between the aspect of the brain during functional activity and the repose of sleep.

Dr. W. A. Hammond asserted from observations made on dogs and rabbits in 1869 that, "in every instance the pressure was lessened during sleep and increased during wakefulness." It remained for Dr. Fleming to demonstrate the practical value of the knowledge of the anemic condition of the brain during sleep by producing sleep on several occasions by compressing the blood supply of the carotids. These experiments were repeated by Dr. J. L. Corning in 1882 who added the further thought, "that when anemia, within certain limits, is brought about through the operation of physiologic law or by means of artificial appliances, compression of the carotids, its effects, as a concomitant physiologic factor in the production of sleep, will be directly in the ratio of

the interganglionic exhaustion." He based his opinion on the fact that favorable results from compression are more easily produced in the evening than in the morning.

It has been cited that the presence of the pneumogastric nerve in the sheath of the carotid militated against the exclusiveness of the theory of cerebral anemia as the cause of sleep. I can not see how this in any way interferes, as compression of the nerve would indirectly produce brain anemia by lowering the heart's action and only add to the condition directly produced by compression of the carotids.

To the idea presented by Dr. Corning, I desire to add the further thought of "suggestion," as an active agent and advocate a *sleep center* governed by the vasomotor center controlling the blood supply of the brain and located in the medulla oblongata at a point extending from the floor of that body to within 4 or 5 mm. of the columns scriptorius. *Stimulation* of this center causes contraction of all the arteries and consequently rise in blood pressure while inhibition, *paralysis* of this region, causes dilation of the arterial system and marked decrease of blood pressure. Fixation of the attention of an individual acquainted with the anatomy of the part upon the multipolar nerve cells, the vasodilator cells, situated in his own medulla oblongata with a view of stimulating their action results in lowering the pulse rate very markedly and if, at the same time, the individual is made aware of the fact that such action will result in producing anemia of the medulla and further reduce the blood supply to the cerebrum and thus produce sleep, he will be affected just in proportion as he has faith in the theory and power of concentration of his mind upon the object desired.

It is thus that sleep by auto-suggestion is produced. But it may be said that sleep so produced is not true sleep but an hypnagogic state. We will not quarrel with this statement, but freely accept it, and claim there is no difference between hypnosis and true sleep, except in the manner of its induction and perhaps some variation in the order in which the phenomena are produced.

In this position we are fully indorsed by Newbold and James. In a recent article on the hypnotic state Professor Newbold says: "Hypnosis is, in a sense a normal state artificially prolonged." And further it would perhaps be too much to say with Mr. Wm. James of Harvard, that, "we all pass through the hypnotic state every night while going to sleep. Yet the changes which take place in the hypnosis probably do not essentially differ from those of normal sleep."

Accepting the two divisions of sleep, exhaustion and habit, made in this article, we would distinguish between the sleep of fatigue and the hypnotic condition as to the phenomena of invasion, but as for the sleep of childhood and even adult life that comes as the result of habit, and I see no difference in phenomena or subsequent effects; both are normal.

Professor Bernheim holds that "there is no fundamental difference between spontaneous and induced sleep." Thomas J. Hudson in "The Law of Psychic Phenomena" says: "There is nothing to differentiate hypnotic sleep from natural sleep." There are, in fact, many analogies between the phenomena of normal sleep and that of hypnotism." M. Liebault (Bernheim's "Suggestive Therapeutics") has very wisely established the fact that "the spontaneous sleeper is in relationship with himself alone; the idea which occupies his mind just before going to sleep, the impressions which the sensitive and sensorial nerves of the periphery continue to transmit to the brain, and the stimuli coming from the viscera, become the point of departure for incoherent images and impressions which constitute dreams. "Have," says he, "those who deny, the psychic phenomena of hypnotism, or who only admit them in cases of diseased nervous systems, ever reflected upon what occurs in normal sleep, in which the best balanced mind is carried by the current in which the faculties are disassociated, in which the most singular ideas and fantastic conceptions obtrude? * * * * *"

"In order to fully understand the phenomena of sleep, it is essential to accept the theory of the 'duality of man's mind.'" "The broad idea that man is endowed with a dual mental organization is far from being new." "Indeed it may be safely assumed that the conception of this fundamental truth was more or less clearly defined in the minds of all ancient philosophers."

It might not be unprofitable, had we the time, in this connection to inquire as to how far it would be possible by auto-suggestion to control our dreams and thus obviate the discomforts incident to unpleasant hallucinations. It is sufficient for our present purposes, however, to establish the proposition that the subjective mind is controllable by the power of suggestion during natural sleep and thus show the analogy between spontaneous and induced sleep in this important and particular point.

There are many other points of similarity some of which it might be profitable to indicate at this time. In the first place, recollection of what has occurred during both spontaneous and induced sleep is in an inverse ratio to the depth of the sleep. If the sleep is light, then the subject has a more or less vivid recollection of what has passed when awakened, especially if he is questioned before other impressions take their place. But profound sleep is dreamless, at least so far as the memory of the sleeper is concerned, although reasoning from analogy, a condition of absolutely dreamless sleep is very doubtful.

I think it is safer to say that the subjective mind is ever active and that the reason we are not, at all times, conscious of its continued activity is because of the preoccupied condition of the objective mind. Unconscious cerebration is undoubtedly going on in our brain all the time and it is only when it takes a practical turn that we recognize it.

Our dreams are often incoherent and absurd, induced by our semi-conscious condition in which our objective minds obtain through our partially paralyzed senses only imperfect impressions of our surroundings, and even these distorted impressions are subject to modification by our bodily condition at the time.

We have incidentally referred to telepathic impressions introduced during natural or induced sleep by means of which any desired mental state may be induced at will—these conditions are held by some to be of a pathologic nature, but from long observation I am positively convinced that they are harmless unless carried to the extreme, and, as any good thing may be, abused.

Every time a nurse puts a child to sleep by rocking or singing to it, she hypnotizes it and suggests pleasant dreams, and the child thrives upon its treat-

ment. Men are only grown up children and are amenable to similar treatment and with like beneficial results when judiciously applied. What can be more pleasant to a person who has been suffering from insomnia, with its bad dreams, than to have some one who is versed in the science come in and say: "Sleep and dream not," and have faith to believe and sleep peacefully through the entire night? Such is being done constantly in these latter days and we venture to predict that the future has a more rational line of treatment for disorders of the nervous system than opiates, in hypnotic suggestion which produces normal sleep when applied with that end in view.

We have, in the past, associated experimentation and display with the hypnotic state, but we are now entering upon the era of its application and the first and easiest mode of applying it is in the treatment of sleeplessness.

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DISCUSSION ON PAPERS READ BY DRS. HOWARD, MASON, CROTHERS AND SUDDUTH.

DR. J. H. HIBBERD, of Indiana—In my judgment the matter of hypnotism is one of great interest in the present state of evolution in the medical mind, in the large field of neurotic disturbances. I think that upon a thorough examination of this question it will turn out to be a greatly misunderstood abnormal manifestation of nervous disturbance. I do not suppose that any one in the world can be hypnotized who is not willing to be. I take it for granted that there must be an abeyance of the exercise of will power when one consents to be hypnotized. I agree with Dr. Patrick when he says that there is no such thing as hypnotism at a distance. I do not believe, when a subject comes under the hypnotic influence, that the operator has any other influence over him than that of suggestion. The hypnotic condition amounts to an unusual condition of certain parts of the nervous system, of some of the normal senses, and the subject goes off into a condition of catalepsy, trance, and finally somnambulism. It seems to me, from investigations that have been made, that this is the natural order in which this condition comes about, but by virtue of frequent use and a thorough knowledge of the process that is going on, the subject arrives at the condition of trance and by "cutting across lots" he rapidly comes into the state of simple suggestion. A larger proportion of the people of the world and no small segment of the medical profession are accepting the statements of those who make a business of going around asserting that hypnotism is due to some psychic force that comes to the operator from the subject. This, I believe, never takes place, for it is merely a matter of suggestion. The suggestion may come directly from the operator, it may come from the surrounding circumstances, it may come by auto-suggestion. There are two ways of arriving at the truth. The better way, the scientific way, is by pursuing an investigation and arriving at facts by actual demonstration. Results obtained in this way are never absolute but are conditional. They are true until other facts are elicited, compared and analyzed and made into a new order of things which is for that time the scientific state. Another way, which may be called the philosophic method, is that in which an inquirer takes up the results that have been obtained by a large number of other people, compares, examines and analyzes them, and after excluding those facts which have no importance to his subject and those things which have been shown to be false, he finds a certain number of facts that are of very great importance and then he arrives at a result which is sometimes correct but is more frequently incorrect. By taking, in this philosophic way, the facts as they may be found scattered over the world, and putting them together, there comes to me a conclusion which seems to be worthy of being entertained and accorded further investigation. It is this: to regard the mind as a compound organ, certain parts of which may be in active operation and all the rest remaining in abeyance and producing no results. A soldier in battle earnestly engaged in the pursuit of an enemy, may be shot while in that condition and has no knowledge of it until he falls from loss of blood or from the wound of some nerve. This is simply an instance of the intense activity of one department of his mind which ignores the activity of all other parts of his mind. If we keep this fact in our minds, we take away a large factor in the mystery of hypnotism.

DR. A. E. STERNE, of Indianapolis—It seems to me that the condition of hypnosis does not depend upon the hypnotizer, but upon the hypnotized altogether. I believe that any man can hypnotize if the subject can be hypnotized. There is and can be no vital force involved. I think that hypnotism is yet in its infancy. From the experience I have had with this "power" I believe it to be as much, if not more, a power for evil than a power for good. I have given up the use of hypnotism as a therapeutic agent and only use it for diagnostic purposes, when I use it at all. I believe that every time a patient is placed under the influence of hypnotism, you weaken an organism already weakened. In the Charity Hospital in Berlin, we worked for a long time under the instruction of Professor Jolly, and it was noticed that in almost the majority of subjects placed under this influence very deleterious conditions arose afterward. That the school of Nancy, led by Bernheim, goes too far, most physicians, I think, are inclined to believe. I believe we follow more the school of Charcot, and that we should discourage such ideas, although we can not exactly deny them, coming from the source they do. If we do not discourage the ideas advanced by Bernheim we go into a territory that is not distinctly medical; we go into jurisprudence and the possibilities of excusing from acts of criminality, people who have committed crime in the hypnotic state. I do not believe that a person of good moral principles will do a crime in the state of hypnosis, and if a person does do a crime under this influence, I believe he is just as much a criminal as if he was not under the influence of the second person. This is a question that it behooves the medical profession to take a stand upon. It is a story of life and death very often, as we have recently seen. There is an element of fraud in all hypnotism; it lies in the person hypnotized. I have many a time put a blunt instrument in the hands of a good girl and she would make plunge with it if told to do so, but when I put a knife in her hand she would not make use of it when directed to do so.

DR. G. J. PRESTON, of Baltimore—In regard to the question which the last speaker has touched upon, I think it is one which involves very great issues. The fact that it has been set up a number of times in murder cases or criminal cases as an excuse, makes the question one of such importance that we can not disregard it. I do not altogether agree with Dr. Sterne, for I believe that a person thoroughly under the influence of hypnotism will do things which in his normal condition would seem very shameful, not to say criminal. We are all familiar with the fact of making our friends undress themselves, or eat potatoes, or do a great many foolish things under the influence of hypnotic suggestions. How far that can be carried is a question which is by no means settled. I remember seeing a great many such experiments performed in Charcot's clinics seven or eight years ago. Dr. Stanley Hall, at that time professor of psychology at the Johns Hopkins University, was interested in the study of hypnotism, and we worked over some particular phases of it, and among others this matter of criminal suggestion. I was not in a position to know the subjects very well, but I used to see the experiments done over and over again upon old and upon fresh subjects, of giving them a knife, or some harmless powder said to be a deadly poison, and suggesting their criminal use. There never was any hesitation in carrying out the hypnotic suggestion. It may be that criminal suggestion is something that has a very unfortunate future before it. I quite agree with Dr. Sterne that we should not regard it as an excuse at all, and should educate the popular mind into regarding it as no more of an excuse or perhaps not as much an excuse as drunkenness. I am satisfied that a great amount of hysteria is caused by hypnotism. This is not so evident in this country as it is abroad. Any one who will follow the work of some person who has been exploiting hypnotism in one of the larger hospitals abroad will see an enormous crop of hysterics that has sprung up around these unhealthy mental experiments. I use hypnotism a good deal myself in certain selected cases, I have never had very much success with inebriety, although perhaps some. I have had some success with sexual perversion, and have had a good deal of success in treating ordinary hysteria. I have never seen any bad results from hypnotism used in a purely therapeutic way. The number of persons who can be hypnotized is certainly very limited. I should say 10 per cent. was a very high average in this country.

DR. E. S. PETTYJOHN, of Alma, Mich.—I beg leave to disagree with the author's theory to the effect that a man can

do as much work on two or three hours' sleep as he can do on the allotted time of eight hours. I wish to speak in this connection of two cases that have come under my observation. One of them, a school teacher, retires after her year's service to her country home. She is very much exhausted, weak and anemic. She then sleeps on an average twenty hours out of the twenty-four, taking one or two meals a day. This she continues from four to six weeks, after which time she comes out like a butterfly from a cocoon. She is then as bright and hearty and strong as if she were a young woman again. The other case is that of a school teacher and is quite similar. I would like to ask if that is not a recuperation of brain cells by prolonged rest and sleep? The brain cells themselves have not the power of muscular activity and so the process of elimination must come from rest. Elimination and repair of the muscular system can be accomplished by the activity of the muscular tissues, but in inactive cells these processes must be secured by rest, and how can this better be secured than by the agency of sleep? I would like to see it proved that a man or woman can do as much work on two or three hours' sleep as upon the amount usually taken.

Dr. B. D. Evans, of Morris Plains, N. J.—I think the matter of hypnotism, like a great many departments in the study of medical agencies, is at this time carried to at least an enthusiastic, if not to an unreasonable extent. Most persons who claim to be hypnotists or have the power of hypnotizing subjects, are necessarily enthusiasts. I have noticed another thing, that they have, as a rule, a large number of cases that can not very well be verified by the testimony of any observer. I mean by this, that an enthusiastic hypnotist gets results that another person observing does not appreciate, and that if the cases operated upon are taken and studied apart from the person who believes he has operated upon them, that these cases will give a very different testimony to others, from that which they give to the person who says that he has hypnotized them. The point made by Dr. Sterne and Dr. Preston, that a very small percentage of persons are subject to hypnotic influences, is borne out by the limited observations I have made along this line. The power of suggestion is admitted by all observers. I am inclined to think, in regard to the matter of hypnotic suggestion, that the results are obtained principally upon people of a neuropathic organization. In all cases that have come under my observation or that I have inquired into, I have found that the subjects were people of very limited intelligence or of extremely bad heredity. In the animal kingdom this seems to hold good. The rabbit, for instance, which is a very stupid creature, is said to be readily hypnotized.

Dr. W. S. Watson, of Fishkill-on-the-Hudson, N. Y.—We are hearing a great deal lately, of the evil doings of individuals being ascribed to the influences of other people. I believe there must be first a willingness on the part of the subject before it is possible to hypnotize him. It is my experience that if my subject is not willing, I am powerless to do anything with him. I believe that there can and will be much good come from hypnotism, but I think there should be some very stringent legislation against the public hypnotizing which is practiced in this country.

Dr. W. J. Herdman, of Ann Arbor, Mich.—I can not agree with the statement that hypnosis is not injurious to the subject of it. I think there is no question but that it has a deleterious influence. I have had two girls under my care who were the subjects of auto-hypnosis. They were both sophomores in college. One of them had had a severe attack of la grippe. As a result of that, she fell into a state of auto-hypnosis. Her room-mate, by "suggestion" probably soon exhibited the same state. They were rooming in the house of a lady who had formerly been their teacher but had married a Professor. Their condition was discovered by this lady who went into their room and found them both apparently in sleep but while "in sleep" engaged in conversation. As they had been children together, while in this condition they talked over the events of their childhood. In the case of the first girl this condition lasted only three or four weeks. She recovered under treatment for her impaired nervous condition. It was three months before the other girl came into a moderately normal condition. During this entire period I never made the slightest attempt, and did not permit any one else, to throw them into this condition. Every time they were found in that state it was by auto-suggestion. During the course of treatment of the second case, I asked the lady in charge to bring the young woman to my office. She would sometimes drop into the hypnotic state on the street, but usually not until she came into my waiting-room which was somewhat warmer than the street. I went through every possible test for the condition of the nervous system. As the ophthalmologist had his office in the same building, I took her into his dark room and he examined her with the greatest care as to the condition of her eyes. During this ophthalmologic examination she was in a state of somnambulism. When she was awakened she did not remember that she had ever been in the dark room. I had her also in one of my examining-rooms during hypnotism and she could not recall, when awake, anything that was in that room. Not to make a long story of it, when she fully recovered from this abnormal condition, the consciousness of what occurred in that state came back to her and she would recollect the experiences as of a dream. She would, while in a hypnotic state at home, recount to those about her, her experiences in my office and in that of the ophthalmologist. When she was awakened from that state and questioned about it she knew nothing about those circumstances. This young woman is perfectly honest and perfectly straightforward. That is her record from early childhood. She came into my office once with a friend, after I regarded her as perfectly well. She asked me if there was not in one of my inner rooms, a painting. I said "yes," and asked if she recollected anything about it. She inquired if it was a marine scene. I said yes, and asked if she remembered any of the figures in it. She asked if there was not a ship in it and a buoy; and this she did as if she were trying to recover a memory of something that had made but a faint impression on her mind. She went on recollecting thus, one thing after another as if by a great effort of memory. In the same way she went through the details of the ophthalmologist's dark room, of which she had no recollection whatever some months before when in her normal condition. Now it appears as if she had registered upon her mind in that condition something which was shut out of her mentality when in her normal condition. While in the hypnotic condition she would always talk with her room-mate about the experiences of her childhood. She was then, to all intents and purposes, a child in her manner, speech and allusions. On one occasion when she was in the hypnotic state in my examining-room, one of her former teachers, who had known her very well as a child, was present. I asked her questions which she answered in a jerky, petulant way, quite the contrary of her normal manner, for when she was herself, she was a perfect lady. The Professor exclaimed upon hearing her answer: "If that isn't that girl as she was at 9 years of age and exactly as her brother is now; that is a family characteristic." Subsequent experiences and culture had built upon this "family characteristic" and had given her the refinement of manner with which I was familiar, but in the hypnotic state she had gone back to that stage of brain registration which was characteristic of her childhood.

What I started out to state was this: that the series of experiences undergone by that girl unquestionably weakened her mind. Since that time she has been engaged in school teaching. Only yesterday I learned that there is something of an arrest or deterioration in her mentality; that she is unable to concentrate her mind as formerly. She passes often into a dreamy state and is unable to use her mind as she did three years ago. I am satisfied that there is a dissipation of energy in hypnosis, whether it is auto-hypnosis or brought about by somebody else's "suggestion." There is a voluntary or involuntary inhibition of the higher centers of brain activity, and by frequent repetition this tends to mental weakness and, as has been stated by Charcot, time and again, such persons are likely to become hysterical and purposeless if they were not so previously. I regard this study of hypnotism as most valuable to us by reason of its giving to us the knowledge of the physiology of mental action. It is no wonder we know so little about its true significance, since physiologists can tell us so little as to how the brain is connected with mental activities. Until they can give us more definite information of physiologic psychology, we can have still less of pathologic psychology. I believe hypnosis to be a mental state closely allied to sleep and also very closely allied to those conditions which we term hysteria.

Dr. Hugh T. Patrick, of Chicago—We can not hope to settle the question of hypnotism in this discussion, but it would seem to me desirable to have an expression of opinion in this Section at this time. That there is such a thing as hypnotism, I think goes without saying. That it may be deleterious, I think goes without saying. That its practice should be restricted, I think goes without saying. But I would make two pleas, first, that it be accorded a place among our diagnostic and therapeutic aids; a place as limited

as you will; personally, I think it must be exceedingly limited, but still, a place. Second, that it constitutes no short cut to therapeutic success. He who would use it must be the well-educated, careful, wise physician still.

DR. W. X. SUDDUTH, of Minneapolis, Minn.—Dr. Pettyjohn wanted to know if sleep is not a therapeutic agent. If his teacher had broken her hours of work by frequent naps she would not have needed the twenty hours of sleep. As to whether hypnotism is an injurious agent or not, depends entirely upon the way it is induced and the individual upon whom the operation is performed. I am a living example of nine years use of auto-suggestion. In 1882, from nine to ten hours office work and five to six hours microscopic work at night, I broke down with nervous prostration. In the summer of 1885, in the old town of Heidelberg, I mastered the matter of auto suggestion by which I could put myself asleep for any time I wished. I was so weak that I could not walk more than a quarter of a mile at a time. I would go into the forests above Heidelberg, walk as far as I could, and then put myself to sleep for a few minutes at a time. Inside of a year's time I had increased my weight to 210 pounds and made a corresponding increase in strength. At the present time, I do twelve hours of most intense work daily. I breakfast at 7, work from 8 to 12, then have dinner, and take a nap after dinner till 2 o'clock; then I work till 6, get another meal and at 8 o'clock begin my literary work and keep it up till 12 or 1 o'clock and then I go to bed and sleep four or five hours. I have kept up this routine for nine years, and am in better mental and physical shape than ever before in my life. The case of the two girls brought before us by Dr. Herdman was not hypnotism at all but simply hysteria. The very fact as the Doctor goes on to state, that they have since suffered from mental disease, shows that it was a premonitory sign of mental disease. Hysteria can illustrate every stage of hypnosis that you ever heard of.

Another point mentioned was that the enthusiasm of the practitioners of hypnotism makes them not good observers. I have been in nearly all the laboratories of Europe. I have spent fifteen years of solid work on that subject. I have not been in practice; I am a student in morbid psychology. I have hypnotized at my home on an average twenty-five to fifty persons a week. They are not hysterical people, but students of the universities I have been connected with. The best subjects I have ever had have been those of the greatest vitality, the best physique and greatest ability. The poarest subjects are those who are weak-minded. The best results and the quickest results have been with other classes of subjects. There are three classes of people who can not be easily hypnotized: idiots, because they have no will power; insane people (barring melancholia); and skeptics. You can not hypnotize an individual who has no faith in you. You can not hypnotize children under 5 years of age. I make a distinction between mesmerism and hypnotism, and if I had time could prove it to you very plainly. Mesmerism appeals to the natural attention, which is common to man and the lower animals. Hypnotism appeals to the educated attention. I do not use mesmerism. I believe that when you set up a machine to mesmerize people and put them to sleep it may be injurious. The only results I have ever seen that have been bad were produced in cases where mechanical means were used to mesmerize the subject. If you work on hysterical people, you get hysterical results. Charcot worked in an hysterical atmosphere. In fifteen years of constant use of hypnotism as a means of studying psychology on normal healthy persons, I have never had but one case that showed any hysterical symptoms whatever. There are laboratories in Europe which report from six to twelve thousand cases. The men I have seen there and the reports which I have received from there, have not shown any deleterious results from hypnosis. Where patients were were in the pathologic condition to begin with, you might observe bad symptoms, but such symptoms would have been observed after the administration of ordinary drugs. If you put a normal atmosphere about it and use normal methods on healthy individuals, the time will come when hypnotism will be almost a household remedy.

DR. A. E. STERNE—I hope the time spoken of by the Doctor will never come. I don't want to see hypnosis used in my family. We have not to deal with normal conditions as physicians. From our standpoint as practical therapeutists I don't want it used.

Dear Doctor:—Please direct the attention of your friends to *our* JOURNAL. We will be pleased to send sample copies to any names you may suggest.

OPERATIVE TREATMENT OF PURULENT DISEASE OF THE ANTRUM OF HIGHMORE, WITH EXHIBITION OF NEW INSTRUMENTS.

Read in the Section on Laryngology and Otology, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7–10, 1895.

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In considering the operative treatment of purulent disease of the antrum of Highmore, I shall speak only of operations for chronic disease. Acute purulent cases, which in my experience are of much more frequent occurrence and much oftener of intranasal than of dental origin, seldom require more than the removal of the cause and appropriate local and constitutional remedies.

Antrum operations naturally divide themselves into two classes: the intranasal and the intra-oral. Each has its advantages, and many methods have been devised to meet the indications demanded by the two positions. Until recently the general rule has been to open the antrum at its lowest attainable point, in order to secure the best drainage, as with scarcely an exception the importance of drainage was especially urged as the *sine qua non* of correct surgical treatment, for it was not deemed inexpedient to have such a pus cavity draining into the mouth, month after month. Over one hundred and twenty years ago, however, Hunter, by indicating the middle meatus as a seat for operation, pointed toward other desiderata than drainage. While giving due weight to the surgical importance of drainage, we must recognize not only the disagreeable features of pus flowing into the mouth and its injurious effect on the digestion and general health, but also—thanks to Miller—the positive dangers thus engendered, not to mention the great difficulty of healing a cavity so exposed to irritation and re-infection from entering food particles and microörganisms.

Operators are widely divided as to the best course to pursue in treating this sinus, but most of those who now advocate opening the antrum into the mouth *for the purpose of drainage*, after introducing a drainage tube, *plug it*, to prevent discharge into the mouth or entrance of foreign substances into the cavity. Two only, I believe, dissent from this plan: Bosworth, who holds that the plug is unnecessary, and Zarniko, who asserts that neither tube nor obturator is required, but that the opening through the alveolus remains closed by a blood clot until this is driven out at the next irrigation.

I do not wish for a moment to condemn intra-oral operations; on the contrary, I find them indispensable in certain cases. But as presenting fewer objections and offering many advantages not obtaining from this position, I wish to direct more attention to the intranasal methods, and to urge a more careful comparison of the two positions. Should we have, for instance, an empyema of the maxillary sinus with a diseased molar or bicuspid as the exciting cause, what more proper than to have the tooth extracted under nitrous oxid gas and a so-called drainage tube introduced? The tooth cavity can at this time be reamed out to admit a tube from 4 to 6 mm. in diameter, and as the tooth *must* be removed it adds but little to the

severity of the operation to insert the tube and thus secure, *not drainage, but means freely to irrigate and medicate the cavity.* The most desirable apparatus, though rather expensive, is a gold tube with a collar fastening it securely to a neighboring tooth, but there is great risk of damage to the sound tooth.

Again, let us suppose that after unsuccessful treatment by way of the alveolus or by one of the intranasal forms of operation, we suspect that either a foreign body or a growth is keeping up the irritation. It is obviously necessary to make a thorough exploration of the cavity, and now the Dessault-Küster operation through the canine fossa is the proper one. In connection with this, I wish to present a convenient form of drill, which has proved so satisfactory in my hands that I feel justified in bringing it to your notice. You will observe that the blade cuts in both directions by a series of half turns, and so penetrates bone very rapidly; and while it cuts a circular hole like a trephine, it is less apt to catch in the soft tissues and lacerate them, as that instrument tends to do in this position. The diameter of the perforation, nine-sixteenths of an inch, permits the exploration of the cavity with the little finger, or the introduction of an electric lamp or small mirror, or even the overlooking of the sinus by ordinary reflected light. After carefully exploring the cavity, removing any cause of irritation, curetting if necessary and breaking down bands, pack lightly with iodoform gauze. While Küster removes the packing in a few days and puts in a drainage tube, Grünwald changes the gauze every three or four days for several weeks before doing so. For my own part, I prefer packing daily with thymol iodid gauze for a week and then fitting a large diameter obturator of metal or hard rubber, which is held in position by the pressure of the cheek. This allows direct applications to be made to the interior of the antrum, and the progress of the case to be watched.

With the exception of the usual and comparatively useless procedure of introducing a small caliber tube through the alveolus, the intra-oral operations are best done under a general anesthetic. I do not use the phrase, "useless procedure," unadvisedly; I have watched for drainage in such cases, even where the tubes were 2 mm. in diameter, and have not seen a trace of pus come down, the cavities at the time being full. Again, I have filled the sinus with water and it would not drain, although the ostium maxillare was patulent. This can be explained partly by the tubes entering the cavity too far, and partly by the peculiarly thick and tenacious character of the pus. It is extremely difficult to judge of the necessary length for these tubes, and it has been suggested to have them fenestrated, but I feel assured that the formation of granulation tissue would offset this advantage. It is only when the empyema is getting well, Zarniko's statement to the contrary, notwithstanding, that the discharge becomes milky and flocculent and capable of draining away through a tube of small diameter.

We see, then, that the intra-oral methods are in many ways not only exceedingly disagreeable to the patient (and not the least of these objections is the necessity for general anesthesia), but even dangerous if the tube is left open, and surgically a failure with reference to drainage if the tube is closed. Drainage, moreover, is clearly not the chief consideration, for free drainage is usually secured for many hours at night through the normal openings, by lying on the back or on the sound side, and yet spontaneous cure in these chronic cases is rarely observed. Even in the erect posture the tenacious pus once started by the air current, as in sniffing, continues to flow and may empty the cavity. Braune has experimentally shown that the air of the antrum can be partially exhausted by forcible inspiration, so that in acute congestions we may even get somewhat of a cupping action by this means.

Let us turn now to the consideration of the intranasal methods. We will speak of treatment through the middle meatus only to condemn it in unmeasured terms, whether it be through the normal openings, as first suggested by Hunter, or through an artificial puncture, as advised by Hartmann. Chiari was able to get pus by way of the ostium maxillare in but one of twenty-eight cases of empyema, and Fränkel has been unable to cure a single case by this method. While it is difficult and often impossible for the physician to irrigate the antrum by way of the middle meatus, it is manifestly out of the question for the patient to do so. Then, too, the Hartmann puncture can be done only at the risk, as Zuckerkande has shown, of wounding the orbit, or of severe hemorrhage from large blood vessels on the outer wall.

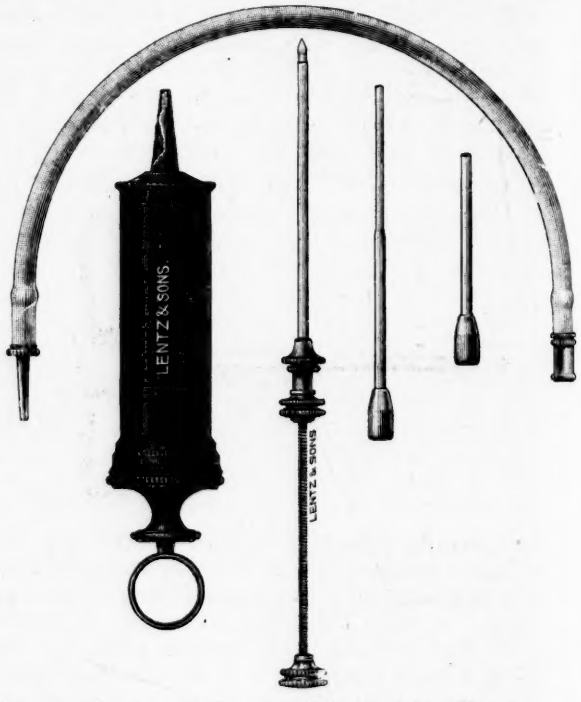
Operations through the wall beneath the inferior turbinal, on the other hand, are of real value. Mikulicz, in the operation, proposed by him about ten years ago, makes an opening three-eighths of an inch broad by five-eighths of an inch long, far up under the inferior turbinal, where the wall is usually quite thin. Through this large opening the pus can drain quite freely into the nose, although the perforation is at times some distance above the floor of the antrum. It is not, however, an operation to be undertaken lightly, for the pain without total anesthesia is considerable, and the hemorrhage frequently demands tamponing of the naris for twenty-four or forty-eight hours. This operation, then, is to be ranked with that through the canine fossa for severity, while it is inferior, in that it allows no examination of the interior of the sinus. Even with so large an opening, however, some patients, Fränkel states, are unable to cleanse the cavity themselves.

Less objectionable, though still possessing serious drawbacks, is the Krause method. He penetrates the outer wall of the inferior meatus far up and back with a strong curved trocar and canula, washes the cavity once and insufflates iodoform. But he puts nothing into the opening to maintain its patulency, and so every second day the canula, armed with an obturator, must again be forced into the cavity. If one considers how rapid the healing of such punctures is, and the great tendency there is for granulations to form, he will realize that the treatment con-

stitutes really a series of operations which must be done under cocain. Bloch objects to this method, on the ground that the opening is extremely difficult to find. While some of Krause's cases are cured in a few weeks, others continue treatment for months, and few could be found in this country to submit to such an ordeal. Another objection to this method is that the patients are unable to carry out the treatment themselves. Again, both Krause's and Mikulicz instruments are too large to be used in making a trial puncture, so that the diagnosis in obscure cases must be confirmed by another method before undertaking theirs.

While many ingenious methods have been devised for the intranasal operations, one very important thing seems to have been overlooked, viz., a simple and practical means of keeping open the perforation, so that the treatment may be readily carried out by the patient as well as the physician. To overcome this objection has been my principal aim in the operation which I now present. In suspected cases of empyema it is often necessary to irrigate the cavity, as first proposed by Ziem, to determine whether pus be present. While he prefers to make the puncture through the alveolus, the majority of operators lean to the intranasal position. Lichtwitz goes so far as to make a trial puncture under the inferior turbinal, and finding pus, operates upon the sinus through the mouth. Following him, I also use a straight trocar and canula, but instead of making the opening as he does in the Mikulicz-Krause position, I perforate low down and more anteriorly. The nasal duct lies from 30 to 35 mm. from the naso-labial junction, and unless it opens in a furrow, its exit is high up under the turbinal. As I keep close to the floor of the nasal fossa, I may at times have to penetrate thicker bone, but this is quickly and almost painlessly done, and the disadvantage is compensated for by entering the cavity near its bottom and thus securing better drainage, while the risk of injury to the tear duct is avoided and a resting place for the head of the tube is obtained inside the pyriform aperture. The inferior turbinal and naso-antral wall beneath it are first anesthetized with 10 per cent. cocain solution; using this trocar and canula, a few taps with the mallet causes it to penetrate the wall, the entrance into the antrum being unmistakably recognized by the absence of further resistance. Withdrawing the trocar, warm sterilized normal salt solution is at first gently, later with considerable force, syringed through the cavity. Should the water return perfectly clear, even after repeated flushing, remove the canula and no harm results. I would emphasize *repeated* flushing, for in one case I used over a pint of water before obtaining a trace of pus, but finally washed out a pus cast of the cavity, the presence of which had caused a marked edema of the eyelids on that side. When pus is present, however, I do not remove it at once, but re-introduce the trocar, remove the two nuts and holding the trocar accurately in place, the hand resting against the patient's face, withdraw the canula. It is to render this possible that the trocar is twice the length of the canula. I now slip a drainage tube over the trocar till it penetrates the cavity and withdrawing the latter, complete the washing of the sinus by syringing through the long silver tube in the set (the wash tube), which accurately fits the permanent tube. If pus is now obtained the tube has been correctly placed. The antrum being thoroughly cleansed, air is blown through to dry it, and then an antiseptic powder is insufflated. The operation, including cocainization, and treatment, takes but eight minutes, and few complain of any pain. The physician should treat the case for the first few days until the nose becomes accustomed to the tube; later, the patient can learn in a minute to pass the wash tube and cleanse the cavity for himself.

Before undertaking any operation on the antrum, its position should be determined by grasping the three points forming, as I call it, the antral triangle—the thumb in the canine fossa, the first finger on the malar process and the second finger on the edge of the orbit. Within these boundaries must lie the antrum, and knowing this, one can hardly go astray. The set of instruments necessary for this operation consists of a trocar and canula, silver drainage tube and a mallet, for irrigating the cavity, a wash tube, syringe and rubber tube with connections. The drainage tube may readily be cut down to fit the case. The trocar is 16 mm. long and 3 mm. in diameter.



The canula is steel, as softer metal splits in penetrating thick bone. The wash tube goes nearly through the drainage tube in order to free it of any accumulations.

Among the many advantages of this operation are: 1, the ready acquiescence of the patient; 2, the celerity and slight degree of pain with which it is done; 3, the completion in one short séance of the diagnosis by lavage, and the operation for therapeutic purposes; 4, the small wound and the loss of only a few drops of blood; 5, the ease with which patients are able to treat the cavity themselves; and 6, the fact that total anesthesia, and therefore assistants, are unnecessary.

The disadvantage is that the cure is delayed beyond that reported for some of the other antral operations, but when once healed, these cases do not seem to have the reported tendency to recur. With the enlargement by one-third, of the caliber of the tubes over those I used four years ago, the cases have done better, and by employing the Friedlander dry

method of treatment the outlook is most promising. The cases which have resisted treatment, and which have shown no progressive tendency to improvement under irrigation, have usually revealed some cause for the continuance of suppuration on exploring through the canine fossa. The ease with which remedies may be applied to the antrum by this method leads me to hope that others by following this line may suggest more successful remedies. Iodoform is out of the question in one's private practice, and Chiari denies that it gives the positive results claimed for it by Krause, Siebenmann and others. All operators, however, acknowledge the excellent results obtained by packing the cavity with iodoform gauze, and Chiari packs it even through the 4 to 6 mm. opening in the alveolus, which he recommends.

In closing, a few words of caution suggest themselves. Do not attempt to aspirate the cavity. The blood vessels are but illy supported and the normal openings being closed, you may cup the cavity as I did with my first case. Do not syringe with strong solution of peroxid of hydrogen, as advised in many books. Even after the cavity has been irrigated, some pus remains, and the pressure from the liberated oxygen, except with very weak solution, causes intense pain.

Do not make an exploratory puncture through the alveolus where dental caries exists, or you may readily infect a healthy antrum.

1720 Locust Street.

DISCUSSION.

Dr. Geo. C. Stout, Philadelphia—We should all feel grateful for any light which may be thrown on the treatment of these obstinate and hitherto refractory cases. Dr. Freeman's apparatus seems most complete and will add materially to our present technique, which by means of these instruments will be clear cut and esthetic. I have now two cases going around with silver tubes in their antra which were introduced through the inferior meatus. These cases have not been cured, and the only advantage gained by the wearing of the tubes is a decrease in the disagreeable odor and a lessening of the viscidity of the discharge. These tubes have been worn three months and over. No favorable results were obtained from the introduction of any medicaments into the antrum, although many were used persistently for some time. The pain experienced in introducing the trocar was slight after cocainization excepting on one occasion, when I attempted to introduce it low down near the floor of the nose, and in this case found the wall so thick and the pain so severe that an attempt to perforate it higher up was advisable.

Dr. Holbrook Curtis, New York—I had two questions to ask Dr. Freeman before I heard the remarks of Dr. Daley; the first was: "How many cases of empyema of the antrum are associated with polypoid degeneration of the tissues within the cavity?" The second was: "In how many cases in which he had introduced his tube had he observed an inflammation of the tear duct?"

In my practice I have found the condition of a majority of cases necessitated a free opening either through the alveolar cavity or the canine fossa, and packing or curetting. I regard the method advanced by Dr. Freeman to be of value from a diagnostic standpoint, but as a method of cure of empyema of the antrum generally speaking, the method is insufficient and unsurgical.

Dr. Casselberry—If one is to open the antrum in any case through the nasal wall, the instruments and method of Dr. Freeman are most perfectly adapted to the purpose. It is certainly an improvement on the means employed by Mikulicz or Krause for perforating through the nasal wall, because it provides a canula for continued drainage, which can be worn out of sight, within the nostril, but which as demonstrated on the patient present is readily accessible to the patient for self-injection of antiseptic lotions. The method of drainage through the nasal wall is best adapted to cases which are not of dental origin, and in which the teeth are all sound and one wishes to avoid the extraction of any of them. It would also serve in any case as an exploratory puncture, to make certain the diagnosis, and as a preliminary treatment to ascertain if cure will not ensue simply on the establishment of drainage for a brief period. As a rule, however, and always in cases of dental origin, I prefer an opening through the alveolar process, via the socket of the first or second molar tooth. A canal about one fourth of an inch in diameter can be made and through it one can curette the antrum to ascertain if there are polypi, granulations or inspissated pus which might delay recovery if undiscovered. Then a gold drainage tube is inserted and worn until recovery, or for a year or more, when, if a discharge still continues, it becomes a question as to whether a radical operation by a large opening in the canine fossa and iodoform packing should be done.

Dr. B. Alex. Randall, of Philadelphia, said—I have had little experience personally treating these chronic cases, as I have generally transferred them to laryngologic colleagues, but have seen many treated by Dr. Freeman's and other methods, and am very favorably impressed with the reasonableness of his procedure. We may not be such "promising medical men" like Dr. Beard whom Dr. Daly mentions, as to run the same risk of a fatal result; but if my recurring acute antrum trouble ever becomes chronic, I expect to be "buncoed" at Dr. Freeman's hands and *cured* like many of his patients. The danger of aspiration of the antrum to which he referred, I can substantiate by my personal experience in totally darkening my antrum in a few hours with extravasations through unthinking "sniffing" in the effort to free the stenosed nares.

Dr. Freeman (in answer to Dr. Stout)—In answer to Dr, Stout, I would ask why he does not operate through the canine fossa and see why the suppuration continues in his cases? When my cases do not progressively improve under the intra-nasal method, I seek the causes by exploring through the canine fossa.

Dr. Klein, who advocates the operation through the alveolus, and the placing of a wire drainage tube, is already answered in my paper. The drainage into the mouth is most objectionable.

Dr. Daley, who is against any but the radical operation through the canine fossa with thorough curetting, is answered by the death of the case which he reports in the practice of a New York surgeon, where the antrum was opened through the mouth and septic pneumonia resulted. I do not think we are warranted in subjecting our patients *unnecessarily* to this risk. Why not continue treating patients by my method, after making an exploratory puncture through the nose? If they do not improve and get well then turn to a more radical method of operating.

Dr. Curtis asks as to the frequency of polypi of the antrum in chronic empyema. I have not found any, and Zuckerkande in his many examinations has found but very few. I think many may be deceived by the peculiar swelling to which the mucous membrane lining the antrum is liable on the least irritation. It may be so great as even to obliterate the cavity. With regard to his other question, whether I had had any case of epiphora, I answer, no, and for the reason stated in my paper, I penetrate below the opening of the tear duct.

Dr. Casselberry pertinently asks what percentage of cures I have had. I have already forestalled this question by speaking in my paper of the possibly slower cure by this method. I think if carefully examined, however, my results will compare very favorably with those of others. Four of my earlier cases were clinic cases and withdrew from treatment before I had perfected the method. Four cases I considered total failures and operated on through the canine fossa ten months ago. These cases are still discharging, although I carried out fully what Dr. Daley advises. I only say I wish I had left in the tubes; then at least they were comfortable, now far from it. I report six cases of cure among some twenty-two antra involved, which sounds like a small percentage. These have remained well at least a year. Three of the twenty-two were done for other physicians and are not under my care. Of the four remaining three are —so to speak—recent and are progressively improving.

The last case is one of eighteen years standing, now under treatment two and one-fourth years. As I have cured one antrum for her by the tubes, she will not hear of any more radical method.

SCROFULOSIS, CHLOROSIS AND TUBERCULOSIS AND THEIR TREATMENT.

Read at the meeting of the Mississippi Valley Medical Association, held at Detroit, Mich., Sept. 3, 4, 5 and 6, 1895.

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I.—TUBERCULOSIS AND ITS DIRECT CAUSE.

During the present century, medical writers have been very active on the subject of tuberculosis, and we can readily understand this activity when we remember that nearly one-seventh of the human race die of this disease. The disease commonly recognized as consumption has been known since the Dark Ages. Even Hippocrates has given a good descriptionof it, at least in reference to lung and pleura, finding the characteristics of this morbid process in a suppurative destruction of the affected organ. Later on, the above-mentioned suppurative destruction was found in other organs also, but as the changes found in the lungs were predominant, not only in the clinical picture, but also in the anatomic findings, those changes in the other organs were believed to be of a secondary nature, the tuberculosis of the lungs being primary. It was observed that the formation of certain nodular bodies preceded the decay or destruction, and each one of these nodes being called a tuberculum, the name of tuberculosis was given to the disease as a whole. Certain small dewdrop-like nodes were named miliary tubercles by Bayle at the commencement of this century, and Laennec, the celebrated French pathologist, saw the gray miliary tubercle changed to a yellowish color and undergo the so-called cheesy degeneration, which he thought to be characteristic of tuberculosis, against which Virchow protested, claiming that other than tubercular inflammatory products could also undergo the process of cheesy degeneration.

Tuberculosis has been regarded as an infectious disease for centuries, but the cause and consequently the modes of infection remained a mystery until Klencke and later (1865) Villemin demonstrated this belief to be true, by transferring parts of organs of man and animals afflicted with tuberculosis into the bodies of healthy animals, thus causing general tuberculosis in the animal experimented on. Villemin caused general tuberculosis by implanting parts of scrofulous glands under the skin or into the peritoneal cavity of animals, proving that certain forms of scrofula, in fact most of them, are of a tubercular nature. Waldenburg, B. Fränkel, Buhl and others, repeated the experiments of Klencke and Villemin with the same results, and they came to the conclusion that the cheesy material must either be invaded by or give birth to the infectious substance. Cohnheim and Klebs believe in a primary invasion of the infectious substance, which then causes all the anatomic changes which tuberculosis brings about, and is at last contained in the cheesy material. Charcot and Aufrecht fed animals with parts of tubercular organs, and Tappeiner made them inhale the dust of a dried sputum from consumptives, with the result of producing tuberculosis in the animals.

It was now to be expected that the ultimate cause of tuberculosis would sooner or later be discovered, and in the year 1882 Robert Koch published the discovery of the bacillus tuberculosis as the cause of all forms of tuberculosis. Koch invented a process of staining the microörganism, which when unstained had hitherto been invisible even with high magnification, and he was thus enabled to demonstrate their presence in all forms of tuberculosis, and their absence in non-tubercular morbid conditions of the animal body. He also succeeded in culturing them and again producing tuberculosis by inoculating small parts of such pure cultures into animals. This latter experiment closes the chain of proofs of the fact that the bacillus tuberculosis Kochii is the cause, and the only cause of tuberculosis in man and animals. For particulars in reference to this discovery and all details, I refer the reader to Koch's *Ætiologie der Tuberculose; Mitheilungen des Kaiserlichen Reichs Gesundheitamtes*, Berlin Bd. II, 1884. Watson Cheyne, Rosenbach, Fluegge and many other competent investigators have repeated Koch's experiments in all their details, and they have all confirmed his results.

Now that the tubercle bacillus is thus known and recognized, medical authors have begun the study of its biologic properties, concerning which I will not go into details here. It is true that the bacillus tuberculosis retains its infective capacity for one hundred and eighty-six days, even if kept under unfavorable conditions. Sputum containing tubercle bacilli was dried and kept for this length of time, and animals were then infected by it. When we consider this, we will understand how very much we are exposed to infection. The bacillus tuberculosis is 1.5 to 3.5 μ. long, slender in comparison with its length, and slightly bent. When Koch published his work, he had found the bacillus under the following conditions: in 19 cases of miliary tuberculosis; in 29 cases of tuberculosis of the lung (here especially in the sputum); in fresh cheesy infiltrations and in cavities, the walls of which were breaking down; in tubercular ulcers of the tongue; in tuberculosis of the pelvis of the kidney, the uterus, the testicle; in 21 cases of scrofulous glands; in 13 cases of tuberculosis of the joints; in 10 cases of tubercular affections of the bones; in 4 cases of lupus; in 17 cases of tuberculosis of cows; in 273 cases of tuberculosis of guinea pigs; 105 rabbits; 44 field mice; 28 white mice; 19 rats; 13 cats, and in a number of tubercular dogs *hamsters*, pigeons, chickens and other animals.

The existence of the tubercle bacillus being now established, we must next ask, What are its modes of life? Where do we find it outside of the animal body, and how does it reach human beings?

II.—MODES OF INFECTION.

I will select a few typical cases to demonstrate the different modes of infection.

Case 1.—*Tuberculosis by Inhalation.* Two girls, say from 15 to 30 years of age, enter a room in which a consumptive is staying. One of these girls belongs to a family in which consumption is hereditary. Her father, or mother, or grandfather, or grandmother died of tuberculosis. She is pale, tall and slender; her chest is flat, and her ribs are not very elastic, but rather rigid, as shown by her shallow breathing; she has a little cough due to a bronchitis which comes and goes. The other girl is of a healthy appearance, and consumption can not be traced in her family. The patient coughs and expectorates into a cuspidor, the upper margins of which are slightly soiled with the sputum; some of the sputum even falls on the floor or carpet, from

which after becoming perfectly dry, it is stirred into the air by an air current and is inhaled by both visitors. The dust containing the tubercular poison is drawn into the larynges and into the bronchial tubes of both individuals. The healthy girl with great excursions of the walls of the chest and a strong expectorant power will soon, that is to say, in the course of a few hours, expectorate the foreign substances, while they will remain in the air passages of the other girl. They now mix with the bronchial exudate, and as the tubercular organisms find in this conditions suitable for life—moisture, temperature, and nutritive material—they grow and multiply. In number they multiply to thousands and are constantly moved up and down with the mucus in the bronchial tubes. Though some of the mucus and some of the bacilli are expectorated, thousands remain and continue to multiply. The upward and downward movements of the mucous column, laden with bacilli, cause friction against the bronchial mucous membrane, producing defects of the protecting epithelial layer, especially at points in the smaller portions of the bronchial tree, where its branches bifurcate at more or less right angles. (Rindfleisch.) This unprotected portion will be the point of entrance for some bacilli; they are rubbed into the deeper tissues of the bronchial mucous membrane, and once seated there, they bring about the formative action on the surrounding cells natural to them (Baumgarten), leading to a multiplication of those cells, which finds its visible expression in the grayish, dewdrop-like *miliary tubercle* (Bayle) or in a more diffuse production of cells, *the tubercular granulation;* or in a filling out of air cells with this newly formed cellular material,—*cheesy pneumonia.* Whether the product be a miliary tubercle, or a tubercular granulation or pneumonia, they all have this in common; they all contain numerous tubercle bacilli as long as they are fresh; they soon show a lack of nutrition; they soon show a dying of the cells, a necrosis which presents the appearance of dry Swiss cheese, therefore called cheesy degeneration, and at this stage they show no more, or but very few, tubercle bacilli. These cheesy, degenerated portions gradually take up serum again, becoming moist and soft. This soft cheesy substance, representing a decayed part of the affected lung, again shows incalculable numbers of tubercle bacilli. It is partly expectorated, thus furnishing the source of numerous infections in the outer world, and leaving a cavity behind. These cavities may be the size of a pin's head, or may occupy a whole lung. I said before, a part of the cheesy material is expectorated; another part gets into the adjoining branches of the bronchial tree and causes the same changes mentioned above; while some may reach the principal bronchus of the other lung which is thus far not diseased, and infect this also. Again, another part may reach the larynx, the epiglottis, etc., and cause a tubercular laryngitis; while again other portions may reach the mouth, but instead of being expectorated, be swallowed, thus causing an intestinal tuberculosis. The lips of such patients will naturally very often be covered with many tubercle bacilli and if they kiss any one the tuberculosis may thus be transferred. One of the localizations in the lung may break into a vein, causing a dissemination of the tubercular virus throughout the whole body, thus producing a general miliary tuberculosis.

The case above described would represent a typical case of tuberculosis caused by inhalation. It is understood that the anatomic changes of the lungs, the bronchial tree and the larynx are accompanied by the common clinical symptoms; fever, emaciation, shortness of breath, cough, pleuritic pains, etc. Instead of a female, a male might be infected; instead of the stated age, the patient might be at any age, although those between 15 and 30 years are most frequently affected. The descendant of a healthy family, too, may become infected but this is exceptional.

Case 2.—*Food tuberculosis caused by swallowing tubercle bacilli.* The drinking of milk from a tubercular cow and the eating of diseased parts of meat not infrequently cause intestinal tuberculosis. I have made the post-mortems of quite a number of cases of purely intestinal tuberculosis, milk having been regarded as the carrier of infection. Tuberculosis of the intestinal tract may also result from the virus being transferred in kissing. If we shake hands with a consumptive who has just wiped his mouth with his hands, or handled his handkerchief, our hands may be covered with tubercle bacilli which may easily enter our mouths and produce the same effects as above described. It is true that in many cases the acid of the gastric juice may destroy the tubercle bacilli, but the acid is not always present, and so they may pass through the stomach and enter the jejunum and ileum to do harm there.

Case 3.—*Tuberculosis by inoculation.* A nurse or other person cleans a vessel containing the infected sputum of a consumptive. The skin is cracked or a cut is inflicted during the cleaning, and some of the sputum is thus introduced into the blood current. General miliary tuberculosis may develop very rapidly. I have seen this occur.

Case 4.—*Hereditary tuberculosis.* This mode of infection has not been cleared up as yet. We know that cows give birth to calves afflicted with tuberculosis, while human beings, it seems, are generally not born infected by a perfect tuberculosis, but rather with a predisposition to it. This predisposition is generally called scrofulosis, and we will see later that this condition is of the greatest importance, the more so, as it is very much neglected. It is also possible but this has not yet been proven, that a direct infection of the fetus by the sperma of the father or the ovum of the mother may take place. In such a case, generally local infection and infection of the regional glands exists.

III.—MEASURES INTENDED TO ARREST THE SPREAD OF TUBERCULOSIS. WHAT MEASURES ARE NECESSARY?

1. Early diagnosis of the disease by a physician. There should be medical centers in all parts of cities where poor people who are suspected of having tuberculosis may be examined free of charge, and in case the examination should reveal tuberculosis, their relatives should be informed of the nature of the disease, and printed directions given them, enumerating the precautions which are necessary to prevent the disease from spreading. The people in general should be advised to consult a physician as early as possible when tuberculosis threatens. Early diagnosis is very important, as cases in the first stages give the most recoveries, and the sooner a case of tuberculosis is discovered, the sooner protective measures can be introduced.

2. Disinfectants should be given to the needy, free of charge; covered porcelain vessels as sputum receptacles, and covered vessels into which the handkerchiefs, underwear, bed-clothes, etc., may be deposited and boiled, should be furnished at the lowest possible cost.

3. The patient should be instructed to deposit his expectorations very carefully in the above-mentioned covered porcelain vessels, which should contain some 2 per cent. solution of carbolic acid or only water. All cuspidors in the rooms occupied by the patient should contain a disinfectant or water, preventing the drying of the infectious material.

4. The handkerchiefs of the patient should be well cared for. Not less than two should be used daily, and when a new one is taken the one used should at once be put into a covered vessel and boiling water should be poured on it. Every night all the wash collected should be boiled for half an hour.

5. The body and bed wash of the patient should not come in contact with that of other members of the family until after it has been boiled or better yet, not at all.

6. The patient should sponge his whole body at least twice a week, and should direct especial care to the cleaning of his face and hands. He should also keep his finger nails cut very short and well cleaned, as the spaces under the nails are gathering places for tubercle bacilli.

7. The patient should not kiss anybody.

8. Teeth and mouth should be kept clean.

9. The patient should sleep alone in a room. This room should be well-aired all day. It should have no carpet, and the floor should be washed every day.

19. The patient should not attend large gatherings except in the open air. He should not visit theaters, concerts or restaurants.

11. The patient should be very careful not to expectorate on the street, on the floor of street-cars, etc.

12. The patient should not shake hands with other people.

13. In all places where drinks of any kind are sold, glasses should be cleaned in running water, and should not be dipped by the dozen or more into the same contaminated water. Dishes, knives, forks, spoons, etc., in hotels and restaurants should be well cleaned.

14. Streets should be well cleaned, and on dry days should be well sprinkled.

15. The sidewalks should be of stone or cement, and should not be excepted from the cleaning and sprinkling process as most consumptives expectorate on the sidewalks rather than in the middle of the street. Dry and windy days give the most chances for infection, and on such days the sprinkling should be very thorough.

16. Ladies should not wear trailing dresses, which will come in contact with the ground and thus gather a great amount of infectious material, which, carried home, may become a source of infection to their family.

17. All milk consumed in hotels, restaurants and private houses should be boiled. Tubercular patients on milk farms and in all places where milk is sold, should not stay in the rooms where the milk is kept, nor should they have anything to do with the milk or its products, as milk is the best medium of infection.

18. Hospitals should be erected near or in the cities for the sole accommodation of consumptives, for the following reasons:

(*a*). If consumptives are kept in general hospitals, they constantly endanger the other patients, as patients whose constitutions have been weakened by disease or operations are more liable to infection than others.

(*b*). In these special hospitals the patients can be taught the necessary degree of cleanliness and the necessary precautions for disinfecting themselves, their sputa, etc., so as to protect others. Two weeks in the hospital will generally be sufficient for this.

(*c*). Consumptives suffering from intercurrent diseases should be accepted at all times and retained until they have recovered from the attack.

(*d*). Patients in the last stages should also be accepted by these hospitals, but should be kept entirely isolated from the others.

(*e*). On leaving the hospital, the patients should be induced to promise to keep up the care learned very conscientiously, and if poor, they should be supplied with a quart of milk daily for their own use, free of charge.

Gentlemen, this is a long list of rules, and considering the indolence of people in reference to such matters, we can hardly hope that they will all be carried out at any time, although we can promise that "time and money spent in this cause will prove an excellent investment."

We physicians, knowing the biologic properties of the tubercle bacillus, knowing that it can not propagate outside of the animal body on account of its delicate sensitiveness to change of temperature, we know that a perfect disinfection of all products of tuberculosis of man or beast, would in time mean a complete extermination of tuberculosis, and therefore we are not afraid of such a long list of rules as the above. Every one of the measures proposed will bring about a certain result, and what one or a few of them alone can do, is shown by Prussian statistics, as published by Prof. G. Cornet *Berliner Klinische Wochenschrift*, No. 20, 1895). The President of Police von Richthofen and the Minister von Gossler of Berlin, after hearing the propositions made in regard to prophylaxis of tuberculosis by a medical board issued orders to carry out those measures in the prisons, penitentiaries, and insane asylums of Prussia with the following result: while in the years of 1875 to 1887, 31 persons out of 10,000 died of tuberculosis, beginning from the year of 1887 a gradually decreasing mortality was observed, down to 25 out of 10,000 in the year 1893, which means that from 1887 to 1893, 70,000 persons died of tuberculosis in Prussia, less than was to be expected at the former death rate. A similar decrease was observed at Hamburg where physicians headed by Predöhl constantly urged the introduction of prophylactic measures, while in Bavaria where those measures were opposed by Bollinger the death rate remained the same until 1892. Although these figures are so very encouraging, one's thoughts must not only wander in this direction. We must not forget scrofulosis and chlorosis, possessing as they do the so-called predisposition to tuberculosis, a predisposition which is partly of a mechanical, partly of a histologic, or a chemic nature (diabetes). I have seen so much neglect of scrofulosis and chlorosis and so much misunderstanding, that I would like to call special attention to the principal facts concerning them.

IV.—SCROFULOSIS.

Scrofulosis is generally an hereditary condition,

which children inherit from parents who were diseased with tuberculosis, scrofulosis or syphilis. Scrofulosis may also be acquired during childhood by living in badly ventilated rooms, to which sunlight, the great oxydizer, disinfectant and purifier, has no access; life in dark and moist basements; over-nutrition, too much bread, potatoes, and other starchy foods, and insufficient cleanliness of the body—all may lead to scrofulosis. The skin and the mucous membranes in these cases are in an exceedingly vulnerable condition, and the regional lymphatic glands are unduly affected by any abnormal state of the organs which they drain. Once affected, the inflammation of the glands early assumes a chronic character and their products of inflammation have a tendency to undergo cheesy degeneration. A superfluous amount of lymphatic vessels and an abnormally rich absorption from all parts of the body is also to be found. We are in the habit of differentiating between a torpid scrofulosis and an erethic scrofulosis and this differentiation is not only of theoretical importance. Children with the torpid form of scrofulosis have thick lips, the upper one is turned upward, the entrance to the nasal cavities generally show a yellowish secretion of the nasal mucous membrane and the breath has an offensive odor. A conjunctivitis gives a red margin to the eye, the cheeks are red, glossy and puffed up, swollen glands of the neck can be felt, or we see scars indicating the seat of past glandular affections.

The erethic form of scrofulosis shows us children of a gracile, slender build, a pale almost transparent skin, haggard cheeks, small hard glands around the neck and in other portions of the body. This form is more easily overlooked than the other. These children are considered tender but not sick, and so their parents see no reason for consulting a physician. Only too late do they find out their mistake. The anemia from which these children suffer (I have already mentioned that they are pale) furnishes a blood for the growing organs which is insufficient in quality and quantity, and this will be the cause for an insufficient development of the different organs; they will remain small and will not be able to functionate nearly as well as other normal organs would. But even if, for instance, the liver and kidneys, though small and not of perfect anatomic structure, may functionate quite satisfactorily for many years, certain other organs can not. I refer to the heart and the aorta, especially the latter. If the aorta is too small—and these patients at the age of about 20 or 25 actually have an aorta the size of a child's—it means that the main channel which conducts the blood supply from the heart to the organs and peripheral portions of the body is insufficient, and there must be and always will be a lack of blood for nutritive and functional purposes in all parts of the body, an irreparable condition which can only lead to the worst results. It is now too late! Even transfusion of blood will be of no avail, as there is no room for an additional quantity of blood in these small channels.

V.—TREATMENT OF SCROFULOSIS.

Sunlight, exercise in the open air, well ventilated rooms, if possible on the seacoast or in wooded portions of the country, bodily cleanliness, proper food in measured quantities, codliver oil in winter and iron especially in the erethic forms, are the important factors which bring excellent results. We physicians can not cure scrofulosis without the aid of intelligent, conscientious and untiring mothers. Children who have not such mothers can only be successfully treated in sanitariums. If I am called to a scrofulous child, my recommendations will be as follows:

1. Seacoast or country for at least three months a year. A shorter stay will not bring any lasting effects. (For poor patients sanitariums are to be provided for by municipal and state governments). All the outdoor exercise possible.

2. Warm salt water baths lasting for ten minutes morning and night. At home these baths may be prepared in the following way:

(*a*). Five pounds of seasalt, or if the people are poor, of rocksalt are dissolved in a wooden or porcelain lined bath tub full of warm water.

(*b*). This same bath is used altogether six times, but after the first bath a bucketfull of water is taken out each time, and in its place a bucketfull of boiling hot water with one pound of salt is added.

(*c*.) The bath temperature should be about 98 F. Every fourth day a new bath must be prepared.

3. During the cool part of the year I would give pure cod-liver oil and at other times syrup of iodid of iron.

4. If called to either poor, inattentive or negligent people, I would in regard to diet only recommend meat, eggs, milk, some vegetables, but very little potatoes, bread and carbohydrates in general, while in other cases I use the following diet which is employed at the great Hospital at Bercksur-Mer and which has also given me very good results:

Breakfast:—		
Milk soup	6 times a week,	7 ounces.
Milk chocolate	1 time a week,	7 ounces.
Dinner:—		
Soup	5 times a week,	8 ounces.
Fat vegetables	2 times a week,	8 ounces.
Roast meat	6 times a week,	4 ounces.
Fried eggs	1 time a week,	1½ eggs.
Fresh vegetables	3 times a week.	
Dry vegetables	3 times a week.	
Prunes	1 time a week.	
Afternoon:—		
Cheese	2 times a week,	1⅓ ounces.
Butter	2 times a week,	⅔ ounces.
Sweet pastry	1 time a week,	
Fruit	1 time a week,	2⅔ ounces.
Supper:—		
Soup	irregular,	8 ounces.
Meat (boiled)	4 times a week,	5⅓ ounces.
Fish	2 times a week,	5⅓ ounces.
Roast meat	1 time a week,	5⅓ ounces.
Fresh vegetables	2 times a week,	5⅓ ounces.
Potatoes	3 times a week,	5⅓ ounces.
Milk and rice	2 times a week,	⅔ ounces.

In the torpid forms of scrofulosis the daily amounts of liquid taken should be reduced to two pints, all in all, while in the erethic forms the patient should continue to take his usual amount and add from four to six quarts of boiled milk daily; this milk may be diluted with water at equal parts. As a matter of course, the frequent catarrhal conditions of the mucous membranes, the affections of the ear, bones and joints, etc., have to be attended to very promptly and perseveringly. Concerning the important treatment of the small heart and the small aorta, I refer to the treatment of chlorosis in the following chapter.

As soon as a lasting rise of temperature sets in, indicating a commencing tuberculosis, I give my patients, if they are adults, a No. 1 gelatin capsule

filled with oil of cloves every two hours, or even every hour from 7 A.M. to 10 P.M.

VI.—CHLOROSIS.

A condition which mainly presents a lessening of the hemoglobin of the blood is called chlorosis. It seems that under conditions so far unknown to us, the iron contained in our food forms a combination with the sulphur compounds in our intestinal channel and thus becomes unabsorbable. The blood becomes pale and watery, the mucous membranes and the skin grow pale and all the well-known symptoms of chlorosis set in. It is hard to understand why people allow the process to advance as far as they do without calling for medical aid, but the fact remains that they see the patient become almost bloodless before they think it their duty to consult a physician. I think if we had an English name for the disease, like the Germans have, "Bleichsucht," that would help matters materially. "Green sickness," I believe is the only term used in this country, and I think it to be very proper, but it should be used more, so that more people might become acquainted with it.

VII.—TREATMENT OF CHLOROSIS.

A small heart and a small aorta are often found in chlorotic individuals, especially in cases of chlorosis, complicated with erethic scrofulosis, while in simple chlorosis we oftener find a large heart, and to this I wanted to call your attention particularly for two reasons: 1, small heart and a small aorta give a disposition for tuberculosis and cause constant weakness, constant ailings and early senile changes in all organs; 2, *we can increase the capacity of the heart and the aorta.* Many hundreds of post-mortems on beer drinkers—I mean people who daily drank large quantities of beer, have proved to me that they understand the technique of dilating the aorta and the heart. If they can do this in themselves we can reach the same result in our patients. It is simply the constant increase of pressure in the arterial system caused by the presence of large amounts of liquids consumed that increases the caliber of the aorta and not the alcohol. It is a kind of *internal massage*, and we can do the same with milk, which is harmless and nourishing besides, or with other liquids. Believe me, when I tell you, that with perseverance you will succeed in by far the majority of cases, and you will not only prevent tuberculosis, but your patients will grow much stouter and their ailments which threatened to make life miserable to them will cease.

If we have a case of chlorosis before us, which yields to an energetic iron treatment only in an imperfect or transitory manner, or which shows an imperfect development of the body in comparison to the age, then we may well conclude that the above mentioned condition exists, and act accordingly. It is better to be guided by those marks, than by the percussion figure of the heart, although the latter will often give the clue for our opinion, but only, if we know well the outlines of the normal heart at different ages and if we are well acquainted with linear percussion. There are quite a number of cases of chlorosis with a general obesity and a large heart existing at the same time; in such cases a reduction of liquids rather should precede or go hand in hand with the iron treatment. We must individualize. But I may say that *every case of erethic scrofulosis calls for internal massage of heart and aorta.* This treatment should be introduced in the following way:

I first tell my patients to continue their usual mode of living for two more days, measure *all* the liquids they take and report the whole quantity taken after two days. Half of the quantity used, I consider the average daily amount and then I order one more quart of liquid to be taken each day until the highest limit will have been reached. Different patients range between three and nine quarts daily, while most of them will take from five to six quarts; this means in addition to the quantity they used to take before treatment began. They can take pure boiled milk, or, if this occasions inconvenience, milk and water (boiled) half and half, or the liquid can be made up of beer or any other liquid which they may prefer. Thus we will cause a constant increase of pressure which will gradually but surely—with but few exceptions—cause an increase of weight that in my cases has varied between three and thirty-five pounds within four months, and we will then be able to get a full and lasting result from our iron treatment where we were unable to get it before.

In reference to the medical treatment of chlorosis, I would like to call your attention to the fact, that most practitioners use the iron in too small quantities. I have had a great number of chlorotic patients who had been under treatment with Blaud's pills, three or four a day having been ordered for them with but very little good results. I gave them sixteen three-grain Blaud's pills in the form of Fraser's tablets, four after each meal and four at bed time, ordered them to eat three eggs a day, drink four quarts of milk daily and as much beef juice as possible, and they made a speedy and complete recovery. If I can have it, I give ferratin at meal times beside. After about a week the patients begin to feel life and elasticity returning, and in the course of from six to eight weeks they will have gained considerable color. I advise you to keep those patients under your charge and control until they are perfectly well, as an incomplete recovery will often be followed by bad relapses which can be prevented. The patients are too apt to consider their rosy cheeks a sign of complete health. Only the physician must decide. Has everything been neglected and has an infection with the tubercular virus taken place? Then we are called upon to cure.

VIII.—TREATMENT OF TUBERCULOSIS.

You certainly do not expect me to bring a compilation of everything of value in the treatment of tuberculosis, but I will say that by mentioning no other methods but my own, I do not ignore the others or undervalue them. On the contrary, I believe that different methods lead to good results. Nowadays it almost requires an excuse if we introduce a new remedy for an infectious disease and it is not a serum of some kind, but I shall not offer an excuse as long as mercury cures syphilis. I heartily wish that an antitoxin to the tubercular virus may be found that will reduce the mortality from this disease as the diphtheria antitoxin has done in diphtheria, but while we are waiting for that to come we must not let our patients die, believing that only serum can help. With the different methods employed, so far, and with better hygienic conditions, we already have 24 per cent. of recoveries and we can increase this number, if the people will hear our loud and persist-

ent call: "Come early." We know that the curability of tuberculosis has its limits, and that a man whose consumption is by accident cured in the third stage would in most cases be a cripple; that means, he will suffer shortness of breath and chronic bronchitis and never regain perfect health. The first and second stages give chances for recovery and after such guarantee comparative health. Pleuritic thickenings and adhesions will remain, fibrous changes in the parenchyma of the lungs also, and consequently the dullness which they cause. The bronchitis in older cases will also remain, but if there is no temperature for months, if the patient gains flesh and color, if there is no progression of the local changes, and if there are no tubercle bacilli, after repeated examination, to be found in the sputum, then we can speak of a recovery just as we do in syphilis.

Now, I will make you acquainted with my own method of treatment which, while by no means a panacea, will, I hope, gain your favor in active service if your expectations are reasonable and your endeavors persevering.

Basing on Robert Koch's finding (*Mitheilungen aus dem Kaiserlichen Reichsgesundheitsamte Ætiologie der Tuberculose*) that oil of cloves 1 to 300,000 prevents the growth of tubercle bacilli, I have recommended its use for the last eight years, have employed it in my practice for the last five years and a half and have found that this, in reference to tubercle bacilli, a very powerful antiseptic, can be introduced into the human body in quantities which will bring about concentrations of disinfecting strength for a year and a half at a stretch without doing any harm—without, for instance, causing albuminuria. I have injected it hypodermically for many weeks at a time and when the injections were made properly, have seen no ill effects. I have employed the treatment in 243 cases in the course of five years and a half, and all those in the first stage seem to have permanently recovered. I have yet the tubercle bacilli specimen on hand from patients who have not shown any symptoms of tuberculosis for the last three or four years, but who to all appearances are perfectly healthy. I have also had some recoveries in the second, and also two in the third stage, but while the second stage sometimes responds well, the time has been comparatively too short for the forming of a far-reaching opinion. I have employed this treatment in the following way:

1. A No. 1 gelatin capsule is filled with the best pure oil of cloves (Merck), and taken with a glass of milk every two hours from 8 A.M. to 10 P.M.

2. If the oil of cloves is tolerated, one capsule should be given every hour, if necessary for a year and a half or two years.

3. Oil of cloves (Merck) and cold pressed olive oil are mixed in equal parts. They are kept standing in a warm place and a hypodermic syringe-full is injected into the subcutaneous tissues, first once, then twice a day, but at the same time. These injections are continued as long as the patient will stand them for about four weeks. Then comes a pause of two weeks, injections for two weeks and so on. My patients all have their own syringes with an asbestos packing. I first draw the syringe full of absolute alcohol (Squibbs), squirt this on the skin of the back and then inject in two places. In one patient I have had an extensive necrosis of the skin following injection, caused by the patient bending over while I was injecting which caused the needle to slip somewhat, and the injection entering the layers of the skin. I have seen a number of necroses in one other case, but I did not make the injections. If you inject into the subcutaneous tissues where the needle is movable, such things will not happen. I sometimes make my injections in the supraclavicular regions but here they can not be made very often, and an extensive, but not very marked edema reaching down to the third rib often follows them.

I have also used a clove water in cases of exudative pleurisy which I thought to be of tubercular origin. In such cases I aspirate with a Dieulafoix, and then wash out the pleural cavity with a three-fourths of 1 per cent. mixture of oil of cloves and water, which is prepared in the following way: water is boiled for two hours, then mixed with three-fourths of 1 per cent. of oil of cloves; the mixture is filtered at a temperature of 100 F. into a bottle which has been thoroughly cleaned and washed with some of the water that has been boiled for two hours. The filtrate should be clear at a temperature of 97° F. to 100° F. Now, for instance, if I should draw out three pints of pus, I would wash out as well as I could with the filtered clove water, and at last infuse two pints (two-thirds of the volume aspirated) and leave them in the pleural cavity, closing up the needle wound. I have treated fourteen cases in this way, four children and ten adults. The character of the exudate was seropurulent twice, and purulent twelve times. In one child, resection of a rib had to follow the washing, and one patient died of tuberculosis of the lungs soon after. This last patient left town and the actual success of the washing is not known. Twelve patients made rather speedy and perfect recoveries.

As the anti-bacterial properties of the oil of cloves are so great, and as it can be brought into the system in such large quantities without doing harm, I consider the cloves superior to creasote, but see no reason why it should not be given together with creasote. The combined use of both I would strongly recommend.

Venetian Building.

FURTHER OBSERVATIONS ON SUBMUCOUS INJECTIONS OF CREASOTE IN THE TREATMENT OF LARYNGEAL TUBERCULOSIS.

Read in the Section on Laryngology and Otology, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

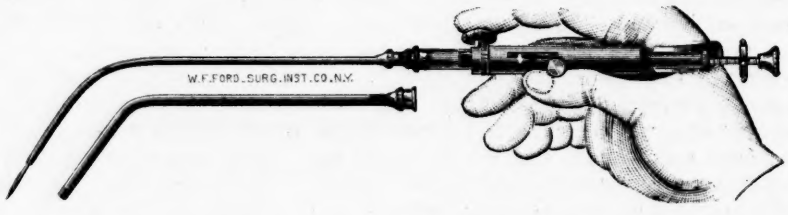
BY WALTER F. CHAPPELL, M.D., M.R.C.S., ENG.
SURGEON TO THE MANHATTAN EYE, EAR AND THROAT HOSPITAL, NEW YORK.

The employment of remedies by the method of submucous injection has been resorted to in but few affections. This is probably due to the fact that internal medication and topical applications meet most of the indications for medicinal treatment. The pathology of the initial lesion of tubercular disease in mucous membranes is, however, exceptional. Beginning first in the mucosæ, immediately beneath the epithelial layer of cells, the deposits are so effectually protected that, unless ulceration takes place, local applications are of little benefit. In these affections it would therefore seem that measures should be employed that would admit of direct contact between the remedy and the diseased tissues.

To effect this, either surgical measures or submucous injections must be employed. By the latter

method, lactic acid, menthol, iodoform and boric acid have been given. Some observers have favorably considered lactic acid and menthol, but the other remedies have given only indifferent success. Krause says he was led to use lactic acid from its well-known property of acting only on diseased tissues and leaving healthy tissue undisturbed. He began his injections with a 10 per cent. solution of lactic acid, which was gradually increased in strength to 80 per cent. There was little pain or reaction until the 50 per cent. solution was reached. His results from this treatment were fairly good; subjective symptoms disappeared, ulcerations healed and infiltrations diminished to a more or less degree. Hering, Major, Gleitsmann, McSherry, Rosenberg, and some others have recorded their experience with injections as being on the whole favorable. The writer has also employed lactic acid submucously with some success, but all of his injections with this remedy even in 10 per cent. solutions caused some pain and soreness; despite the favorable reports of the treatment by submucous injections; some writers assert that they have had nothing but failures from it, so that, on the whole, this form of treatment has not been received with much enthusiasm.

This I think is partly due to the inaccurate and imperfect means which have been used to make the injections. The laryngeal syringe of Hering and several others I have seen, consist practically of a long needle with a laryngeal curve, attached to a syringe barrel and piston. With this syringe it is impossible to accurately gauge the depth of the injection, and when using a syringe of this kind, I have found it necessary to push the needle deep into the tissues, otherwise the movement of pushing down the piston and the unsteady condition of the surrounding muscular structures were sure to disengage the point of the needle. As the tubercular infiltrations are very superficial, it is probable that some of the failures are also the result either of the injections being too deep, or of the fluid welling up around the needle and escaping.



The automatic syringe and guarded needle point described in my article on the submucous injections of creasote, in the New York *Medical Journal* March 30, 1895, obviates these difficulties to a great degree. In several instances where there seemed to be no result after an injection, I found that either the needle had slipped or the fluid escaped around it.

The point of the needle should always be moderately sharp, and owing to the action of the creosote or lactic acid, the rubber guard should be renewed frequently, otherwise it becomes soft and slips up on the needle when pressure is made. The syringe should be held by the operator in as favorable a position as possible, so as to make the injections with ease. Separately these directions may appear unimportant, but if faithfully carried out they do much to turn failure into success.

Creasote has many qualities which seem to recommend it for submucous injections. It is neutral in reaction, and when applied locally it resembles carbolic acid in causing considerable local anesthesia; it is also antiseptic, sedative and astringent. There is much difference of opinion about its effect on the tubercle bacillus. According to experiments and observations of some writers there is much evidence to show that creasote has a decided anti-bacillary action. The writer inclines to the theory that creasote neutralizes the poisonous products of bacillary origin which are said to produce the fever and digestive troubles of tubercular patients and, that if it does not really kill the bacilli, it practically renders them innocuous; the greatest difficulty being to supply creasote in such a manner and in sufficient quantity to reach all the bacilli.

The oily solutions of creasote, in the proportions already published by me, give the highest percentage of favorable results when given by the submucous method; some cases do better when the hydrocarbon oil is left out. The omission of the oil renders the solution stronger and of greater consistency. Other patients improve more rapidly from the injections of alcoholic solutions of creasote, beginning with a 20 per cent. solution and gradually increasing until 50 per cent. is reached. These solutions cause some burning and irritation. In a few instances pure creasote has been employed, but in my experience, it should be reserved for cases where there is considerable and rapidly progressing tissue necrosis. In my first injection I rarely used more than one drop of any of the solutions for each injection; subsequent experiments show that two, three or more drops of the oily solutions may be used with advantage over the arytenoid cartilages and ventricular bands of some patients.

The benefits obtained from this method of treatment vary in different patients. In some the dysphagia, dysphonia and other subjective symptoms have entirely subsided and the disease has seemingly been arrested for several months without much change in the hypertrophies and infiltrations. In others again, the infiltrations have diminished to a point where further treatment seemed unavailing until a change of climate increased the general nutrition and favored further resolution. There is still another class of cases in which the tubercular process may be arrested in all but one portion of the larynx. This was well illustrated in one of my patients, who gave a conclusive history of syphilis, and on first examination his laryngeal trouble was thought to be specific. A thorough course of antisyphilitic treatment increased the laryngeal affection. Further examination proved the case to be tubercular. Under the creasote treatment the disease was arrested in the cords and in one of the arytenoids. The other arytenoid, although persistently injected, did not diminish more than one-third of its former size. The mixed treat-

ment for syphilis was then begun and within a week the delinquent arytenoid was reduced to nearly normal proportions.

When tubercular disease infiltrates the perichondrium of the arytenoids, the prognosis is not favorable and it is doubtful if the cartilages ever resume their normal size and appearance under any treatment.

Prompt response to treatment can not be expected in a disease so intractable as tubercular laryngitis. Many failures to obtain some benefit are, however, in part due to the hopeless spirit with which some physicians undertake its treatment.

Physicians who have been more or less successful in the treatment of laryngeal tuberculosis by various methods, will agree that it was obtained only by the systematic and persistent use of the selected methods.

While the writer does not wish to be understood to think that creasote is the only drug to be used in tuberculosis of the larynx, he does assert that when the submucous treatment is decided upon, that it should be given by the automatic syringe already mentioned, no matter what remedy is used. The exact depth and amount of the injection can then be regulated and the field of injection always kept in view in the laryngeal mirror. Usually, the submucous injections have been reserved for infiltrated and hypertrophied tissues and not for the ulcerative stages. The ability to give a superficial or deep injection, according to the requirements of the case, has added greatly to the degree of usefulness of the submucous method. A resumé of the claims for submucous injections of creasote are:

1. In the early stage of the disease when there is only slight thickening of the tissues as a result of the tubercular deposits, the method as described by the writer brings the creasote in direct contact with the deposits. Further progress is frequently arrested, and the infiltrations subside.

2. When the stage of ulceration is reached, and the ulcers are comparatively deep, with some surrounding infection, injections into the surface of and around the ulcer, assist granulation and arrest further invasion of tissue.

3. When the affected tissues are rapidly necrosing, the patient is usually too weak to undergo curetting or excision. The injection of creasote is then very beneficial, relieving the pain and laryngeal soreness, hastening the separation of necrosing tissue and arresting the progress of the ulcerations.

DISCUSSION.

DR. CASSELBERRY—The laryngeal syringe which the author has exhibited is ingenious and seems well adapted to the purpose. In delicate intralaryngeal injections it certainly is an object to be able to avoid the slight deviating motion which is imparted to the hand by driving a piston home. The spring catch of the syringe might, however, be made to work more smoothly and perfectly.

DR. H. W. LOEB, St. Louis, called attention to the possibility of accomplishing good by submucous injection of immunized horse serum. Dr. Paquin, of St. Louis, was quite successful in the use of the serum in pulmonary tuberculosis, and while the speaker had seen a case of laryngeal tuberculosis improve under subcutaneous injections distant from the larynx, he thought that submucous injections would be more successful,

DR. CHAPPELL—I regret I can not agree with Dr. Gleitsmann when he says it is an easy matter to regulate the depth of a submucous injection in the larynx with an ordinary laryngeal syringe and needle. I realize the success of submucous injections depends in having a guarded needle. The spiral spring in the barrel of the syringe has to be very strong.

A COMBINED UTERINE IRRIGATOR AND DRAINAGE TUBE, WITH INDICATIONS FOR ITS USE.

Read before the Loup Valley District Medical Society at St. Paul, Neb., March 12, 1895.

BY O. GROTHAN, M.D.
ST. PAUL, NEB.

The need of uterine drainage as based upon modern surgical principles is or ought to be so well understood that anything said in this direction may seem as though treading on already well beaten grounds. Yet the importance of the subject will bear repeating, even though we have good reason to expect these indications to become fewer and fewer, as time goes on, hand in hand with aseptic obstetrics and gynecology. Still there is one thing certain, that until we may live in a Utopia of a sterilized medical profession and absolute cleanly patients, the dirty doctor (I mean surgically dirty) and ignorant midwife will always be with us, and leave infection along their wake. Beside, an infected womb of ten or fifteen years ago, may at any time, cost our patient the price of her life, irrespective of the law of established tolerance. The indication for uterine drainage and irrigation may be considered under the heading of puerperal and non-puerperal. To the latter a rather wide range of usefulness may be extended, viz:

1. After the removal per vaginam of uterine fibroids.

2. As Manton[1] has stated, after some cases of trachelorrhaphy.

3. After the Apostoli treatment.

4. According to Murray and Polk, curettement and drainage for pyosalpinx.

5. In chronic gonorrheal endometritis, especially where there is narrowing of the cervical canal.

6. In subinvolution as the result of septic endometritis and in hemorrhagic and catarrhal endometritis.

7. In dysmenorrhea of congestive origin or due to stenosis.

8. The septic variety of endometritis accompanied by hypertrophy with excessive glandular secretion, inertia and atony of the uterine muscles, the benefit of drainage and stimulating or antiseptic irrigation is striking. The last named condition often calls for curettement, iodoform gauze tamponage and finally the use of proper drainage.

9. In sterility, due to stenosis, either congenital or acquired.

10. It will answer the purpose of a stem pessary, if such an instrument has ever a legitimate indication.

But where the most good may be accomplished is in puerperal sepsis. Here the endo-uterine douche alone, as a rule, without free drainage is inadequate. Let me state right here that when the lying-in patient is infected, nine times out of ten the accoucheur is responsible; but these things may and will occur we all know, and that, from circumstances over which we have no control, as, for instance, where midwives have preceded us, and gross uncleanliness on part of the patient or attendants, both before and after parturition. Also from the rekindling of an old infection—the so-called auto-infection. We should also remember that there are contra-indications for placing a foreign body within the uterine cavity. Chief among these are acute inflammations of high grade, whether metritis, endometritis or parametritis, and we must be morally certain that pregnancy does not exist. The

[1] Annals of Gynecology, July, 1895.

indications for uterine irrigation and drainage are not difficult to determine, as every text-book and journal treating of the subject recommends irrigation and efficient drainage, so that the question confronting most of us is not *when*, but *how*, to employ this measure; the solution of which is left entirely to our own resources.

Should I now ask you, what are the best means at our disposal for securing uterine drainage, if I mistake not, your answer would unanimously be, iodoform gauze. This substance is the material *par excellence* to carry off primary wound secretion, as well as a valuable tissue stimulant and drain in tubercular or other fistulous tracts, and almost an indispensable mechanical hemostatic and uterine stimulant after curettement; but, as stated by competent observers, instead of acting as drainage in the uterine cavity, it is simply expelled or acts as an obstructing plug to the discharges.

Next Walter S. Wells' spiral wire tube, filled with wicking and supposed to establish osmosis between the uterine cavity and a medicated sponge placed in the vagina, has proved to be a failure.

Then comes Cherron[2] with 20 to 100 strands of silkworm gut introduced on a special holder, the free ends of the gut being fitted to a celluloid plate. This may in a few cases prove of some value as a capillary drain.

Combined Uterine Irrigator and Drainage Tube.[3]

We have Bolt's and Wylie's hard rubber drainage tubes, to both of which the same objections are found applicable. In gynecology these tubes answer better than in puerperal sepsis, but in either case they fall short of our expectations; first, on account of the grooves being partially closed by the tissues pressing into them; second, and the most serious objection to their use, is occlusion by the vagina falling against the free outlets.

In a recent case of puerperal sepsis, where one of these tubes had been placed in the uterus for twenty-four hours, its withdrawal and the simple introduction of an English catheter was followed by the discharge of more than an ounce of exceedingly foul sanguino purulent fluid, Of the two, on account of its freer outlet, Wylie's tube is preferable; but who would think of using a contrivance of this kind for drainage in a surgical wound?

I will here show you a Manton tube which is the best of any on the market, as you will observe it has a truncated extremity and a slot nearly its whole length, but it has the same objectionable outlet as the two last named—hence is of but little practical value.

I now present an irrigating drainage tube, constructed of vulcanized rubber or platinum which has, so far as it has been used, proved to answer every indication for which it is intended. It is at present the ideal uterine drainage tube because:

1. Its outlet can not become obstructed and overdistend the flabby uterus.

2. It is the only tube through which irrigation may be accomplished and that will admit of continuous uterine siphonage or irrigation in those very virulent cases where life would be extinguished in a day or two.

3. By no other means is it ever safe to irrigate the uterus without the use of a speculum, as it is never permissible to pass an instrument through the vagina by the sense of touch directly into the uterine cavity, although this folly is sanctioned by high authorities.

4. We should never trust even a trained nurse to irrigate the uterus, but after once introducing this tube, a nurse can be instructed to use an antiseptic vaginal douche and then attach a No 7 English catheter—from which an inch or more of the tip has been removed—to a fountain syringe, turn on the stream, and guide the catheter into the tube. As the cavity of the tube gradually tapers from the last drainage or return fenestra to the irrigation apertures the catheter will, by introducing it until resistance is felt, fit snugly and throw the fluid into the uterine cavity, returning it through the irrigation openings. In this way, by placing a patient on a douche pan, intra-uterine irrigation may be resorted to, without the least inconvenience or exhaustion to the patient, as removal of the tube for sterilization, as a rule, oftener than every twenty-four or forty-eight hours is found unnecessary even in case of puerperal sepsis. In non-puerperal patients, removal of the tube is not so often indicated. Whatever the indication for which the drainage tube is used, the patient must be kept absolutely at rest until its removal.

In conclusion, let it be understood that I do not wish to go on record as advocating drainage in every case of endometritis, dysmenorrhea, etc.; in fact, its indication is rather the exception than the rule. I am aware, too, that even the majority of cases of puerperal infection will, sooner or later, recover without any local treatment whatsoever; again, a few antiseptic vaginal douches are all-sufficient; or every indication may be fulfilled by one thorough uterine cleansing. But that there are rebellious cases which tax the physician's skill to the utmost, can not be doubted, and where alertness to the danger signals, and effectual and radical treatment, is the lying-in patient's only safeguard. It is equally true that physicians who scout at the idea of all intra-uterine medication and who, in a practice of ten or twenty years, never invade this organ, are far from being alive to their patients' welfare.

When any treatment is to be directed to the endometrium two points, however, should under all circumstances, be kept in mind—namely, gentleness in manipulation and conscientious antiseptic precautions.

[2] Gazette des Hôpitaux. October, 1892.
[3] Manufactured by the Aloe & Penfold Company, Omaha, Neb.

TUBERCULOSIS.

Read before the Pennsylvania State Medical Society, 1895.

BY J. M. BATTEN, M.D.
PITTSBURG, PA.

I wish to show, by clinical observation, that the tubercular diathesis, predisposition to, or habit, is inherited to the third and fourth generations, and that consumption has been but very slightly, if at all contagious among those who came under my observation

who have not inherited that predisposition to the disease.

Mrs. G. had five children. She and four of the children died of phthisis pulmonalis. The remaining child, a female, lived till the age of 84 years and bore ten children, five of whom died of phthisis pulmonalis. Three of the latter were married and had children. The eldest a male had four children, three of whom died of phthisis pulmonalis—one is still living. The second one, a female, married and had one child, and within a year after the birth of the only child, the latter died of children's disease and the parents died of phthisis pulmonalis. The third, female, married and had one child, a male, who is still living. The mother died young and the husband died recently of heart disease. Two females, unmarried, died young of phthisis pulmonalis. Of the five living, the eldest had ten children, two of whom died of typhoid fever. The remaining children are living but delicate. The mother is 75 years old and has paresis. The second, a female, married, had five children all living and healthy. The third, a male, in his younger days had hemoptysis, but removed from the city to the country and is still living. He is married and is the father of five children, all delicate. The fourth, a female, married a delicate man who afterward died of phthisis pulmonalis. She is the mother of five children, all delicate. The fifth, a male, is still living at the age of 58 years. He has hemiplegia and is the father of three children, small in stature but healthy.

One case of another family, Mrs. M., who died of tuberculosis, had borne four children, three of whom died young; two of them of children's diseases, the third at the age of 20 years, of phthisis pulmonalis. The mother, Mrs. M., died at the age of 40 years. Mrs. M.'s parents were healthy. Her mother lived till the age of 86 years, and her father till the age of 74 years. The remainder of the latter's children, five in number, are all living and healthy with no history of tuberculosis in the family. Mrs. M. is the only case who came under my observation, in which the disease may be said to have been acquired.

Of the fourteen cases of widows or widowers who came under my observation, whose husbands or wives died of phthisis pulmonalis, all are now living and healthy.

Now the most popular theory as to the cause of phthisis pulmonalis seems to be that the cell must have a deficiency in vital energy and also must have inherited the tubercular diathesis before the tubercle bacillus can attack it with any degree of success. Then it follows that a cell may have a deficiency in vital energy, not having inherited the tubercular diathesis, yet the tubercle bacillus may not attack it, or the cell may have a sufficiency of vital energy and an inherited tubercular diathesis and it may be invulnerable against the tubercle bacillus' attacks. But I have no doubt, in the case of Mrs. M., that the tubercle bacillus successfully attacked the cell with deficient vital energy, without it having had inherited a tubercular diathesis.

On the other hand, there are those who may claim the old theory that the disease is transmitted from parent to offspring, and they might ask the following pertinent questions: If there was no tubercle bacillus, would there be any tuberculosis, and if there was no inherited tubercular diatheses would there be any consumption? It is a well-known fact that "the tree is known by its fruit." You all remember how Jacob of old, transformed the sheep and cattle into "ring-streaked, speckled and spotted," in order to take advantage of his father-in-law, Laban. With our present knowledge of the laws governing procreation we would say that such a change in the color of those animals was caused by the impression made on the parents at the time of copulation. That is, the change in the color of the animals depended on the impression on the ova, either through the female or through the fructifying influence of the male—the semen—at the time copulation took place. Consequently, there could not have been any other factor to cause the change in the color of the animals. When a person of tubercular diathesis is impregnated, or impregnates, there may be claimed to be a constitutional condition in the offspring similar to that of the affected parent. This constitutional condition may affect the circulatory, nervous or glandular system in such a way as to interfere with a healthy physiologic action of the same and, thereby, producing a weakness in these various systems, and finally diseased cells and consumption are developed.

I believe that the proper plan to prevent this disease, tuberculosis, is to educate young men and young women how they should make their selections, in order that their posterity may not be tainted by disease, and they should also be taught the great importance of making healthy selections.

Fifth Avenue and Ross Street.

SOCIETY PROCEEDINGS.

Chicago Ophthalmological and Otological Society.

Regular meeting, held Oct. 8, 1895, at 155 Dearborn Street. There were seventeen members in attendance, DR. GRADLE in the chair.

Minutes of the last meeting were read and approved.

DR. COLEMAN reported a case of ulcer of the cornea treated by a Saemisch incision and subconjunctival injections of corrosive sublimate. De Wecker says in the *Annales de Oculistique* for June, 1895: "I return to large injections of sublimate, 1 to 2000 with eserin. I have ordinarily injected half a Pravaz syringe full even in very advanced cases of suppuration with hypopion. Only six or eight injections are necessary to obtain recovery, with clearing up of the diseased portion." Abadie, in the *Annales de Oculistique*, 1895, writes: "If the patient comes to us with very extensive suppuration of the cornea, and it is not in our power to restore the diseased parts, we are always able to preserve the portion which still remains intact. To accomplish this object several methods are at our disposal—the method of Saemisch, the actual cautery. What I wish to say is that to-day we have a much better method, that is subconjunctival injections of sublimate, and we can in a large number of cases dispense with the actual cautery. The following cases prove a surprising success: one, a man, aged 48, with an ulcerated point on the cornea and a little pus in the anterior chamber. Injection of two drops of sublimate, 1 to 1000. This was repeated on the third day. Patient was cured without the slightest alteration in the cornea.

Second case, aged 40, with extensive ulcer and large hypopion. Had three injections; quite cured in seventeen days.

The *Annals of Ophthalmology and Otology*, April, 1895, contains an abstract of Dr. Bull's paper on the question of the "Efficacy of Subconjunctival Injections of Mercuric Bichlorid in Ophthalmic Therapeutics." A review of the literature showed great diversity of opinion among the various observers as to the value of this new treatment during the past year. Dr. Bull had employed these injections in forty-eight cases. He summarized as follows: "Pain is always severe in spite of cocain, and reaction is apt to be very severe. The only class of cases in which the sublimate injections seem to exert any positive effect in allaying symptoms and shortening the duration were those of scleritis and irido-choroiditis of the non-syphilitic type. The treatment

is still on trial and should not be promiscuously employed in all sorts of cases."

One further quotation after all the laudation of the sublimate injection treatment, and the consensus of opinion in regard to its wonderful effect, especially in hypopion ulcer. The following review of Dr. Bach's work is instructive, although disappointing to our expectations. Under the head of "Experimental Researches on Ulcer of the Cornea, Produced by Staphylococci," Dr. Bach has endeavored to demonstrate experimentally the efficiency of sublimate injections. He inoculated the corneæ of rabbits with staphylococci. Both eyes were simultaneously inoculated. One was treated simply with instillations of atropin; the other received, in addition, subconjunctival injections, following the technique laid down by Darier. In forty experiments the therapeutic results were negative. Indeed, the reactionary phenomena were more intense and lasted longer. He found that as long as the cornea was not perforated, no microörganisms entered the interior of the eye, even in the hypopion which is the result of exudation of fibrin and leucocytes. He tried to find mercury in the eye, but did not succeed. He has settled upon the following treatment for corneal ulcers: the eye is bandaged, and 6 to 8 drops of atropin are instilled daily; the cul-de-sacs are cleansed with physiologic salt solution, and after the ulceration progresses, the borders are lightly touched with the galvano-cautery. If there is hypopion, without tendency to absorption, the cornea is punctured to evacuate it. The punctures may be repeated.

Finally, Dr. Coleman's own case: G. E., aged 22, a machinist, was brought to me on September 30, last. Two weeks previous, a piece of steel chipped off by a turning lathe had struck the left cornea. A fellow-workman had attempted to remove the steel and partially succeeded. Four days later the steel was removed by the family doctor. Hypopion appeared on the day before I saw him. At first visit there was deep conjunctival injection of the whole bulb, with a deeply infiltrated, creamy, central opacity of the cornea, two lines in diameter, the surface of which presented a superficial uneven ulceration. One quarter of the anterior chamber was occupied by pus; the pupil was semi-dilated and regular under atropin; the iris was discolored; pain quite severe. V=fingers at four inches. Treatment, September 30: subconjunctival injections near the lower corneal margin of sublimate, 1 to 2000, and sodium chlorid 1 to 1000, 10 minims; atropin 1 per cent. and later eserine .25 per cent. A hot solution of boric acid was applied to the eye every two hours. October 1 there was extensive ecchymosis below the cornea at the site of injection, which prevented the lids from closing. The ulcer and the hypopion are about the same. Given iodoform ointment in the eye. October 2, cornea more infiltrated and the hypopion increased. Repeated the injections of 3 minims at three points. October 3, infiltration of the cornea increased at the lower three-quarters, and the hypopion was worse. Fearing my patient's eye would go on to destruction under the injections, I, for a time, questioned whether to use the galvano-cautery or the Saemisch incision. As the cautery without perforating the cornea would not empty the chamber of pus and, if used to perforate, might entail a prolapse of the iris and severe reaction, I decided to adopt what seemed to me the most rational procedure, that is, a Saemisch incision, which I did, and pressed out the coagulated pus; prescribed formalin 1 to 1000, to be instilled into the eye every hour. October 4, no pus in the chamber; less infiltration of the cornea, and no pain. Corneal wound reopened and formalin repeated. Since this date the opacity and ulceration of the cornea have gradually lessened, and recovery with slight opacity is assured. Given a case of infected ulcer of the cornea, I believe that the galvano-cautery or sublimate injections may be good treatment; but with pus in the anterior chamber that is not rapidly absorbed, or is increasing under treatment, it seems to me not only rational surgery to give it vent by incision, but very bad surgery to omit to do so.

DR. DODD had used the corrosive sublimate injections in a number of cases, and said his conclusions were very indefinite. They proved most satisfactory in cases of severe syphilitic iritis. In these cases the results were quite marked. In ulcers of the cornea the treatment was of no benefit, and in many cases it made them worse. In diseases of the fundus they were of no benefit; the pain of the injection is always severe. It is now claimed by recent experimenters that the physiologic salt solution is even better than the corrosive sublimate, because the only action such injections have is to increase the lymph circulation.

DR. MONTGOMERY said that many cases of syphilitic iritis yielded rapidly to simple constitutional treatment combined with atropin, and that little dependence could be placed on the results of the few cases treated with corrosive sublimate.

DR. GRADLE spoke of the cumulative effect of anti-syphilitic treatment, and said that but little effect was noticed in such cases at times until the drug had been used for some time, and then suddenly the drug began to act on them. It would seem as if the new treatment were doing the work, and that it was simply due to the cumulative effect of the whole treatment. He had tried corrosive sublimate injections in only two classes of cases; in one class of interstitial keratitis, and the class of syphilitic retinitis. In both of these classes of cases it was possible to foretell the course of the disease, both being slow in development. In such cases the injections had proved to be of absolutely no benefit. He considered the Saemisch incision the best treatment for ulcers of large size; the cautery the best for the small and deep ulcers.

DR. WARE believes in the Saemisch incision when hypopion is present, but he has been able to control most cases by the cautery.

DR. HALE spoke of the treatment in Kiel, Germany, and said that the cautery was very much used.

DR. PINCKARD referred to the large number of cases of ulcus serpens that came to the Massachusetts Charitable Eye and Ear Infirmary from the granite quarries in Quincy. The cases are chiefly caused by blows from fairly large stones, the size of a marble, which not only abraded the cornea, but which seemed to paralyze the nutritive function and allow the cornea to rapidly slough. In such cases the routine treatment had always been the Saemisch incision, with almost uniformly good results, the cautery being rarely used.

DR. WALKER, of Denver, referred to similar cases seen there in which miners were struck by small pieces of stone and had noticed the same interference with the nutritive function. The Saemisch incision was also chiefly used by him.

DR. COLEMAN said, in closing, that De Wecker, of Paris, recommends the use of eserin instead of atropin in cases of ulcer of the cornea.

DR. PINCKARD spoke of the use of pilocarpin in a similar way.

DR. COLBURN showed a piece of iron removed from an eye. It entered the eye about four lines from the corneal edge, passed across the globe and lodged in the retina. The next day the piece of iron was removed with a magnet. The second day a large opacity in the vitreous developed, and on the third day opacity in the posterior capsule began. In a few days the whole lens was perfectly opaque, although it had not been touched either by the foreign body or by the magnet. The wound healed very kindly in a short time, without any pain, redness, or other symptom.

DR. GRADLE had seen a case where on the fifth day after the injury the whole vitreous was opaque. The wound was in the upper cornea and the foreign body (a piece of steel) was easily extracted with a magnet.

DR. COLBURN said this was the third case he had had in which opacity followed in the lens when the lens was not touched.

DR. DODD had a similar case.

DR. PINCKARD asked if any member had had a case in which a foreign body was removed from the vitreous and the case recovered useful vision.

DR. MONTGOMERY had one case in which a foreign body was removed from the vitreous within half an hour after the injury, and many months afterward the patient had useful vision.

A number of cases of foreign bodies remaining in the eye with fairly useful vision were spoken of.

DR. WALKER reported a case in which a man was shot through the iris and lens, the shot lodging in the sclera behind. The shot could not be seen with the ophthalmoscope on account of the hemorrhage, and the eye-ball was removed.

DR. PINCKARD had seen two cases in which the shot had gone entirely through the eye-ball and lodged in the orbit.

DR. MONTGOMERY had seen one such case, but the shot was a large buck-shot, and the eye was so much torn that it was removed.

DR. GRADLE showed some beautiful photographs of sections of the ear.

On motion, the Society adjourned.

C. P. PINCKARD, Secretary.

103 State Street.

Southern Surgical and Gynecological Association.

Abstract of the Proceedings of the Eighth Annual Meeting, held in Washington, D. C., Nov. 12, 13 and 14, 1895.

(*Concluded from p. 911.*)

FIRST DAY—AFTERNOON SESSION.

DR. GEORGE H. NOBLE, of Atlanta, Ga., read a paper entitled,

ONE HUNDRED AND SIXTY-SIX CASES OF CANCER OF THE PREGNANT UTERUS OCCURRING SINCE 1886.

The author's attention was directed to this subject by four cases that came under his observation; his success in dealing with them had encouraged him to look more carefully into the treatment, and as a result he had collected 166 cases of cancer of the pregnant uterus which had occurred since 1886, the time of the Bar thesis. Dr. Noble then confined himself mainly to the statistics of the treatment and results, referring to Bar, Cohnstein and others for information concerning the age, the period of recurrence, the period of abortions, etc. There were twelve partial amputations of the cervix in the seven months of pregnancy, averaging five and a half months; 96.6 per cent. of the mothers recovered from the operation, while 8.3 per cent. died; 66.6 per cent. went to full term, one child dying subsequently, and 41.6 per cent. aborted. Two mothers had subsequent operations performed for the removal of cancer, but there was recurrence in both cases. Another conceived a second time, and died thirteen days after confinement of peritonitis. Of the three cases of intra-vaginal amputation of the cervix, two recovered from the operation, giving a mortality of 33.3 per cent.; the children the same. One mother died of peritonitis, one died suddenly six weeks after confinement, and the third had two subsequent operations for the removal of the malignancy. The intravaginal amputations give a combined mortality from operations, of mothers 19.3 per cent., of infants 40 per cent. Sixteen supravaginal hysterectomies were done prior to the seventh month, with a mortality of 6.2 per cent.; six had recurrence of the disease, three had no return and seven were not observed. There was therefore an ultimate mortality of 66.6 per cent. In the sixteen cases in which the records are complete, thirteen cases were lost, a mortality of 82.5 per cent. Of the remaining three, one went to full term, and the other two were not mentioned. One case aborted thirty-five days after conception, aborted again in forty days, conceived a third time, was delivered normally, and was well five years afterward. There were twenty-three vaginal hysterectomies. In two cases the results were not recorded, leaving twenty-one cases, all successful. There were seven cases of vaginal hysterectomy in the puerperal period from fourteen to twenty days after abortion or delivery, all recovered.

The total number of abdominal hysterectomies was sixteen; twelve of these were Freund's operation, one after Mackenrodt's method, and the remainder not described. Of eleven cases, seven died from the operation. One case had enchondroma of the pelvis; another had return of the cancer in one year, and a third had a return in a few months, and died seven days after an operation for ileus due to cancer of the intestines. These three are the only ones with complete records; therefore it is impossible to give an estimate of the ultimate recoveries. The products of conception were all lost.

Cæsarean section was done forty-three times, as follows: conservative (or Sänger) twenty-six; Porro, nine; Freund's, eight times. Of the twenty-six conservative operations, sixteen died and seven recovered; in two, the results are not recorded, and one was dead before the operation was performed; mortality in twenty-three cases being 43.7 per cent.

The number of recoveries in the Cæsarean-Porro operations were four, deaths five; mortality of 55.5 per cent. In eight Cæsarean sections by the Freund method, there were three recoveries and five deaths, giving a mortality of 62.5 per cent.

A short summary shows: 1, that vaginal hysterectomy should be safe in the early months of pregnancy and the puerperal state, when there is a reasonable hope for the mother; 2, that abdominal hysterectomy should be done when the uterus is too large to be rapidly and safely removed through the vagina; 3, that at or near the end of pregnancy, Cæsarean section should be resorted to, when the child's interest is to be considered; 4, that Cæsarean section with Freund's operation is permissible when the disease is confined to the uterus and the child is viable; 5, that in doubtful cases, cutting of the cervix and rapid delivery may be judicious when the incision can be made in non-ulcerated or non-infiltrated tissue; 6, that as there are four chances to one, against the life of the fetus, and as an equal number of mothers may be ultimately cured in the early stages of the disease, the safety of the fetus should not be allowed to hazard the life of the mother; and that, upon the other hand, the futile efforts directed to the interest of the mother when her case is hopeless, should not jeopardize the safety of the fetus in the latter months of pregnancy.

DISCUSSION.

DR. HOWARD A. KELLY, of Baltimore, said that cancer of the pregnant uterus is rare. He had seen but three cases. If the cancer is seen in the early stage, when it presents itself as a mere nodule on the cervix, not apparently extending into the broad ligaments and pregnancy is approaching, it would be safe to let pregnancy go on to full term and labor to take place naturally. Per contra, if the cancer has advanced to such an extent that there is a possibility of involvement of the broad ligaments, the surgeon could not operate too soon, because under the conditions of pregnancy the growth of cancer of the cervix is much more rapid than it is ordinarily.

DR. VANDER VEER, of Albany, stated that four years ago he operated on a case, doing a vaginal hysterectomy. Pregnancy had advanced about four months. He felt happy about the case for two and a half years, at the end of which time cancerous nodules presented themselves at the site of the cicatrix. Pregnancy had advanced to full term. The patient lived for a period of eight months. The pelvis was filled with a cancerous deposit. Dr. Vander Veer reported another case of cancer of the pregnant uterus, and while the patient recovered from the removal of the uterus, she subsequently died from recurrence of the disease.

DR. E. S. LEWIS, of New Orleans, contributed a paper entitled:

HYSTERECTOMY FOR FIBROIDS.

The author said that hysterectomy for fibroids, now a justifiable and recognized operation for the preservation of health, the prolongation and the saving of life through important operative procedures, minimizing the element of risk, had reached its present enviable position by the substitution of direct ligation of the uterine arteries, for the unsatisfactory methods heretofore employed to secure immunity from hemorrhage, these measures often failing to prevent bleeding and not infrequently there was exposure to infection through the region of the cervix. Complete hysterectomy, whether by the vaginal route in fibroids of moderate size, through the abdomen in certain cases, or by the combined abdomino-vaginal method in other instances, heralded a brighter era for the future of hysterectomy. That exceptions might occur with regard to individual cases, rendering the complete operation inadmissible, he was prepared to admit. The author then reported eight cases in which the complete operation was practiced.

Case 1.—Patient aged 53 years. Tumor the size of a seven months pregnancy. Operation performed March 11, 1894. Incision from pubes to two inches above umbilicus. Omentum detached from anterior surface of tumor to which it was adherent; a portion of omentum ligatured and cut off on account of free oozing. The subperitoneal fibroid attached to the fundus was lifted out and upper portion of ligaments ligated and divided. The bladder was then detached and vaginal roof opened in front and behind. The lateral vaginal connections and lower portion of broad ligaments were transfixed and ligated with a double ligature and the uterus freed. One suture through middle of vaginal vault. The incision (abdominal closed) and the vagina loosely packed with iodoform gauze pushed above vaginal roof for drainage on account of some slight venous oozing. The tumor weighed twenty-five pounds. This patient made a satisfactory recovery.

Case 2.—Patient, 43 years of age, had profuse uterine hemorrhages. Uterus as large as a five months pregnancy from interstitial fibroid. Endometrium curetted and iodine injected without relief. Hysterectomy by the vaginal method. Recovery.

Case 3.—Patient, aged 63 years. Diagnosis: interstitial fibroid with carcinoma of cervix. The uterus reached the middle of the hypogastrium and was about the size of the preceding case. Its removal was easily effected in the same manner. Ligaments were secured with clamps. The fibroid, about the size of an orange, was not weighed. Recovery.

Case 4.—Patient, aged 44. Uterus enlarged from small fibroids. Vaginal hysterectomy followed by recovery.

Case 5.—Patient, aged 35 years. Diagnosis: uterine fibroid, reaching to umbilicus. Recovery.

Case 6.—Patient, aged 42. Large uterine fibroid the size of an eight months pregnancy. Vaginal hysterectomy.

Case 7.—Patient, aged 40. Diagnosis of subperitoneal fibroid attached to fundus. Same operation.

Case 8.—Colored woman. Fibroid affecting the body of the uterus and as large as a six months pregnancy.

DR. HOWARD A. KELLY, of Baltimore, made some remarks on the "Technique of Supravaginal Hysterectomy." He described a new method for hysterectomy in removing the uterus, ovaries and tubes through the abdomen. It is a modification of the Baer method. He had tested it in about one hundred and fifty cases of all kinds, and had operated in the presence of hundreds of practitioners. While he had not heretofore described it, he had briefly referred to it before the Section on Obstetrics and Diseases of Women at the Baltimore meeting of the AMERICAN MEDICAL ASSOCIATION.

DR. JOSEPH TABER JOHNSON, of Washington, D. C., followed with a paper entitled:

SEVENTEEN CASES OF HYSTERECTOMY.

The first successful hysterectomy ever performed was done by Dr. Burnham, of Lowell, Mass., in 1853. Kimball, who assisted Burnham in his first case, subsequently operated with success after a correct diagnosis had been made. In 1875 Kimball reported nine hysterectomies with three deaths. Burnham had then done sixteen hysterectomies with four deaths. These results were considered fairly good at that time. In 1878 Gusserow reported that up to 1866 Koeberle had lost all but eight out of forty-two hysterectomies, giving him a mortality of 81 per cent. Schrœder collected reports of 108 hysterectomies with a mortality of 85.3 per cent. Thomas' "Diseases of Women" reports twenty-four cases with eighteen deaths. Storer, in 1874, reports ten American hysterectomies; all died. From 1874 to 1894 many changes in technique including asepsis, the Trendelenburg position, the intrapelvic but extraperitoneal treatment of the pedicle, the closure by suture of the separated edges of the broad ligament, drainage when necessary through the vagina after total extirpation, have all had their share in diminishing the mortality from 85.3 per cent.

In the June number of the *Annals of Gynecology*, Cushing publishes a report of 1,670 suprapubic hysterectomies done by American operators, with a mortality reduced to 13.8 per cent. One of the improved methods of widening the scope of this beneficent and magnificent operation and greatly reducing its mortality was introduced, advocated and practiced by Dr. B. F. Baer, of Philadelphia, who is quoted in Cushing's article as having operated seventy-eight times with seventy-one recoveries and seven deaths. Dr. Johnson presented his paper for the purpose of reporting seventeen operations by Baer's method with sixteen recoveries and one death.

The three preceding papers were then discussed jointly.

DR. HENRY O. MARCY, of Boston, agreed with Dr. Johnson that the method of operating by the Koeberle clamp had been shown to be absolutely wanting in this type of operation; that it is not easier to do excepting in very few and rare cases; that it is ill-advised and subject to serious dangers. In reference to the operation described by Dr. Kelly, he desired to refresh the memory of the members, that in 1880 he published a paper in which he reviewed the various steps and pointed out the advantages of the operation which is now known under the name of Dr. Baer. In the International Congress of 1881, he presented a second paper in which he emphasized the value of it. The advantage of leaving the stump was a great gain in the subsequent result, in that it left a sort of fixation point between the uterus, rectum and bladder. It is of value, again, in that it does not shorten the vagina—a question of paramount importance in reference to marital life and of the conditions that may follow in the subsequent history of the patient. He was sure that surgeons were working on the line of great and general improvement, and that when the technique of this operation has been developed more thoroughly, the time is coming when the removal of large fibroid tumors of the uterus will be accomplished with equal safety as the removal of large ovarian cystomata.

DR. RICHARD DOUGLAS, of Nashville, said one advantage of the procedure described by Dr. Kelly was that the bladder was out of the operative field, the surgeon not having to handle that viscus; that the operator could open the broad ligament and remove the intraligamentary fibroids without difficulty and without danger. Another important feature was that the risk of ligating the ureter was greatly reduced.

DR. W. E. B. DAVIS, of Birmingham, believes that most surgeons are now inclined to accept the intra-abdominal method of operating, although it was still a question whether we shall have a pedicle, or go in through the vagina. A very important point was with reference to the time of these operations. He had seen Dr. Kelly operate and admired his manual dexterity; but to take out the uterus in six or seven minutes meant very little when it takes an assistant, or the operator himself, an hour or more to complete the balance of the operation. At the meeting of the AMERICAN MEDICAL ASSOCIATION he saw Dr. Kelly remove the uterus by the method he had described in something like seven minutes, but it took his (Kelly's) assistant one hour and twenty minutes to finish the operation. This was no reflection on Dr. Kelly's skill as an operator, but he thought the matter of time should go down on record in a little different way.

DR. VANDER VEER, of Albany, remarked that in 1889 he removed the uterus somewhat in the manner described, the case having been already recorded. He had done the operation only twice since. He uses the Koeberle clamp because he thinks he can do the operation much quicker, and has no reason to regret its use.

DR. A. M. CARTLEDGE, of Louisville, believes it is an advance in pelvic surgery to remove the uterus in badly septic cases, whereas formerly only the tubes and ovaries were taken out.

DR. E. S. LEWIS, of New Orleans, remarked that his experience with total hysterectomy for fibroids was restricted to the cases he had reported. The operations which he had performed up to last year were cases in which a partial removal of the uterus was effected, leaving a portion of the cervix. He could not but think, however, notwithstanding the majority of the gentlemen who had spoken upon the subject appeared to be advocates of the partial operation of leaving a part of the cervix, that total removal of the uterus was the best operation.

DR. KELLY said, in reply to Dr. Davis, that when he spoke of removing the uterus in seven minutes or less, it did not include closure of the wound, dressing, etc. He had never been so dishonest as to make the statement that the entire operation could be done in such a short space of time, nor would he like that impression made.

DR. JOHNSON remarked in reference to taking out the cervix, that it prolongs the operation and necessitates greater mutilation and more stitching, and seems to be unnecessary in view of the successful cases that had been and are being reported. Patients get perfectly well without doing it. He concurred in Dr. Davis' statement that the time consumed in taking out the uterus did not amount to much, but that we should consider the matter from the time the first incision is made until the last stitch is inserted, the wound dressed, and the patient off the table.

DR. JOSEPH PRICE, of Philadelphia, contributed a paper entitled

ABDOMINAL HYSTERECTOMY.

Among other things he said that had the same mortality attended the early ovariotomies that attended the first ventures in hysterectomy, there would have elapsed a longer period than forty or fifty years between the first successful ovariotomies and the date of the revival of the procedure. Both vaginal and supravaginal hysterectomy had been largely practiced by those who have given pelvic surgery most attention. They are the men who have contributed the most to perfecting the procedure. Abdominal hysterectomy is the one procedure indicated in all cases of intrauterine malignancy, where vaginal portions of the cervix are not involved, in all cases of uterine malignancy complicated with tubal and ovarian disease, and in cases of uterine fixation antedating the malignant development. Hysterectomy, vaginal or supravaginal, should be a simple, direct and complete operation in every detail. Where the operation is done with good surgical judgment and skill, there will be comparative immunity from all risk of dangerous hemorrhage and avoidance of sepsis. The method of procedure successful experience recommends as safe, the most satisfactory and complete in its results, is extirpation by lateral ligation, incision of the posterior vaginal fornix, circular incisions of vagina to bladder, and approximating vaginal walls to, and matching the perineum, completes the simple procedure. This is the method with which others as well as Dr. Price himself, have met with the best success. Operations for malignancy by the upper method of dealing with omental and other adhesions lessen the risk of post-operative troubles and early recurrence. In all operations for

malignancy, Dr. Price advises the removal of both the ovaries and tubes, and says that an operation would be imperfect without it. The leaving of the ovaries sometimes results in the growth of small tumors, necessitating an additional operation. The toilet should be perfect. If the operation has been complicated by pus accumulations in tube and ovaries, with universal adhesions, irrigation followed by glass drainage will give the best results. Drainage should be used in all cases where the adhesions are extensive, as oozing of blood and serum may be very free.

Morcellation, with a mortality of one in seven, can not certainly be said to offer any very strong claim to our consideration. Such a mortality does not compare favorably with the much abused extraperitoneal operation with the Kœberle or elastic ligature. Dr. Price had no statistical reasons for complaining of any one of the four methods—intraperitoneal amputation, extirpation, supravaginal, extraperitoneal, or vaginal extirpation, as his results in all, had been altogether satisfactory from the standpoint of recoveries.

Dr. A. M. Cartledge, of Louisville, Ky., presented the following paper:

HYSTERECTOMY IN ACUTE PUERPERAL SEPSIS, WITH REPORT OF CASES.

The author reported two instructive cases, after which he summarized his conclusions as follows:

1. From our present knowledge of the causation and nature of puerperal infection, we may say it is largely a preventable disease.

2. When occurring, it is of the greatest importance to differentiate between puerperal intoxication or invasion of a piece of putrescent placenta or blood clot by saprophytic germs, and true septic infection or invasion of living cells by pathogenic bacteria. Puerperal sapremia, though in many cases producing the most alarming symptoms, is usually amenable to energetic treatment by curettage, antiseptic irrigation and satisfactory tubular drainage of the uterine cavity.

3. True aseptic infection should be treated by sterilizing the birth canal at the earliest possible time, free elimination by purgation and the prompt evacuation of superficial abscess accumulations about the cervix. Such a course may save the patient from more radical measures.

4. The chief differential points between puerperal intoxication and true puerperal infection are the comparative absence of pain, tympanites and abdominal tenderness, and the more sudden onset and severe character of the symptoms in puerperal intoxication. Hysterectomy, as a primary measure, is never justifiable in septic intoxication, and when necessary it can only be after the mixed or secondary infection which may follow in the track of a primary sapremia.

5. Progressive involvement of the deeper structures, as evidenced by daily elevation of temperature, probably 103 degrees F. in the evening and subnormal in the morning, together with night sweats, scanty secretions, ascending pulse, are indications for hysterectomy.

6. It is often impossible, from the involvement primarily of the low pelvic structures, to make a bimanual examination which will reveal the true condition of the uterine appendages. But in view of the fact that these structures are not so prone to be invaded in the acute violent type of the disease, vaginal hysterectomy should be the operation of selection.

Second Day—Morning Session.

Dr. Richard Douglas, of Nashville, read a paper entitled

SPLENECTOMY STATISTICALLY CONSIDERED WITH REPORT OF A CASE.

Gathered from all sources, the author finds on record 194 splenectomies. Of these, 126 were females, 57 males, and in 11 cases the sex is not given. Furthermore, he finds that in forty cases the operation was undertaken for wounds or injuries. Of this number twenty-six were males, and fourteen females. If we deduct these, we find that the ratio of splenectomies for disease is 31 males to 112 females, showing the latter sex to be much more predisposed to disease of this organ. Dr. Douglas then reported the following case: Mrs. J. S., aged 33, housewife, multipara, native of Tennessee, family history good, has suffered occasionally with menorrhagia, but more recently from amenorrhea. She had malarial fever when 12 years of age. The last three years she has lived in the western portion of the State on the banks of the Mississippi, and has suffered during this time from frequent attacks of intermittent malaria. About August 1, last, she suffered from an acute pain in the left side. A tumor was then discovered in that region about the size of a fist. Physical examination revealed a smooth, elastic, movable tumor, filling the left lateral region of the abdomen, its borders well defined, edges sharp and notched. It frequently changed its form; at times it appeared flat and smooth, again it would rise up as a sharp ridge extending from ribs to symphysis pubis. There was absolute dullness over the tumor. Vaginal examination revealed the uterus forward, the pelvis filled with a smooth hard mass, which upon change of posture disappeared from the pelvis and occupied the left iliac fossa. She suffered from paroxysmal pain, not severe. A sense of weight, a dragging in the left side, flatulency, nausea, and occasionally vomiting. There was some emaciation and slight anemia. There was no edema, ascites, vertigo or insomnia. A blood examination of the case constituted a part of the report.

A diagnosis of malignant hypertrophy of the spleen was made, and after due preparation the abdomen was opened by a lateral incision at the outer border of the left rectus, the incision being about six inches long. The spleen was found displaced and free from adhesions. Its pedicle was secured by interlocking ligatures; pedicle was severed close to the organ. As additional security against hemorrhage, ligatures *en masse* were employed; also individual deligation of splenic artery. After removal of the spleen, bleeding from abdominal incision become very profuse and required several ligatures. Peritoneum closed by separate silk sutures, the abdominal wall coaptated by usual interrupted silkworm sutures. The post-operative history of the case was a very stormy one, but one month after operation the patient is out of bed and now looks ruddy and well.

Dr. W. E. B. Davis, of Birmingham, contributed a paper entitled,

SURGERY OF THE BILIARY DUCTS.

Dr. Davis reviewed the operative procedures practiced on the biliary passages and recommended for cases of obstruction from stone in the common and hepatic ducts, that the obstruction should be removed, and that no attempt be made to suture the incision in the duct or ducts. His experiments had demonstrated that the field of operation will be walled off, and that no general inflammation will occur after this treatment. He had tested the value of gauze in draining bile in injuries of the gall bladder and ducts, and reported cases where he had removed the gall bladder without tying the duct by packing with iodoform gauze. The animals got well. In other instances where he incised the gall bladder and ducts and packed with gauze around the openings, no stitches being used, the animals recovered. Complete walling off of the general cavity was noted when the abdomen of the animals was reopened. The experiments of Dr. Davis demonstrate conclusively that the peritoneum is capable of taking care of a small amount of bile, but that large quantities or the constant extravasation of it will produce a fatal peritonitis usually in from twenty-four to forty-eight hours.

MANAGEMENT OF CASES WHICH HAVE RECOVERED FROM APPENDICEAL ABSCESS IN WHICH THE APPENDIX WAS NOT REMOVED.

By Dr. John D. S. Davis, of Birmingham, Ala.

The practice of dealing with appendiceal abscess by simply evacuating the pus and draining the cavity thoroughly without any very extensive search, or the breaking up of adhesions in order to find the appendix, has been adopted by a large number of the leading operators for some time. More recently some of the leading surgeons have advocated, in all cases, that the operation should be made complete; that all adhesions should be freed and the appendix removed. One leading abdominal surgeon, who has perhaps done more work in pelvic surgery than any other man in this country, has advocated this plan of treatment in most vigorous terms. In a large proportion of cases of pus in the tubes and ovaries, gonorrhea has been an important factor in its production. Such pus is not septic and is not calculated to give rise to so dangerous a general inflammation as infection from an appendicitis or an appendiceal abscess. It is a notable fact that a ruptured tube or ovary will usually be followed by a circumscribed inflammation. It is the exception that a fatal general peritonitis results from such an accident. The most fatal forms of peritonitis are due to a ruptured appendiceal abscess. In fact, but few cases are saved when such an abscess ruptures into the general cavity.

An operation on an appendiceal abscess is usually one of the simplest of procedures and is attended with almost no danger. Where the inflammation is circumscribed and the drainage is thorough, nearly all cases recover. The records of operations for appendiceal abscess show that the great majority of cases are cured after evacuation and complete drainage. Recurrence of the disease in such cases is rare.

The appendix in a large proportion of cases having ruptured before the abscess formation, is completely drained through the abscess and permanently cured. In others the appendix is destroyed by the inflammation and there is nothing left of it when the abscess is operated upon. To make an extensive search for the appendix is liable to break up adhesions and then allow escape of septic fluid into the general cavity. Thus a very simple condition may be converted into one of the most serious that could happen to the peritoneal cavity. Dr. Davis believes that there can not be much need of breaking up adhesions, for they give way in a short time after the abscess is relieved. In breaking up these adhesions, in addition to the danger mentioned, the surgeon prepares a favorable condition for fresh adhesions, with the possibility of the bowel being fastened in a position that will produce pain and often obstruction. After the abscess is thoroughly cleaned out, gauze packed into the abscess cavity and between the abscess and abdominal wall will completely shut it off, and the chances for recovery will be good in such cases. Dr. Davis does not favor the breaking up of adhesions and searching for the appendix in cases of appendiceal abscess.

SECOND DAY—AFTERNOON SESSION.

DR. JOHN A. WYETH, of New York city, delivered a memorial address on

DR. J. MARION SIMS AND HIS WORK.

Dr. Wyeth said it was safe to say that Marion Sims attained the highest position ever achieved in the history of the profession. He stands alone in this; his reputation as a surgeon was so world-wide that in any capital, in any country within the domain of civilization, he could command at any time a lucrative practice. Assuredly, there does not exist in the history of surgery another such distinction. In New York, London, Paris, Brussels, Berlin, Vienna, Rome, Madrid, Lisbon, and St. Petersburg he found himself everywhere sought after, not only by the patients he could benefit, but by the leading members of his own profession, who were anxious to pay tribute to his wonderful genius. The study of his life should instill hope into the heart of every student. Born amid the most humble conditions in a backwoods county of South Carolina, he died the foremost surgeon of his country and of the world. What a transition from the log-cabin of the poor farmer in Lancaster District to the palace of St. Cloud, where he was a guest of Napoleon III, the trusted physician to the Empress, as he was to the highest and lowest of those who sought relief at his hands in any part of Europe!

Toward the higher and purer civilization, the progress of man is slow. As yet, the shadows of barbarism linger about him. His heroes are the destroyers, the Cæsars and Napoleons, who covered the earth and buried beneath it countless lives, sacrificed upon the altar of personal ambition. But the time must come when those whose genius and works give life and health and happiness to the world will be first in the heart of man. In this purer temple of fame, along with those of Jenner, Ephraim McDowell, Morton, Lister, Pasteur, and others, generations yet unborn shall read the name of Marion Sims.

At the close of Dr. Wyeth's address, remarks were made by Drs. Robinson, Wilson, Nelson, Marcy, Englemann, Kollock, Vander Veer, Gaston, Tiffany, and Westmoreland, eulogizing Sims, most of whom were personally acquainted with him.

DR. GEORGE BEN JOHNSTON, of Richmond, Va., read a paper entitled,

COMPARATIVE FREQUENCY OF STONE IN THE BLADDER IN THE WHITE AND NEGRO RACES.

It is commonly stated by writers on urinary diseases that stone in the bladder is of rare occurrence in the negro race. This is so at variance with his own experience that he has instituted an investigation either to prove the statement or to correct the fallacy. He selected the Southern States of Virginia, North Carolina, South Carolina, Alabama, Georgia, Tennessee, Kentucky, Florida, Louisiana, Mississippi, Arkansas and Texas as the field of inquiry. He selected 400 representative practitioners to correspond with, in order to procure the necessary data. He received 338 responses, 94 of which contained information, and the remainder were negative. He succeeded in collecting 1,068 cases of stone in the bladder. Of these, 952 were in white subjects, and 116 in negroes. It is at once observed that the negro cases represent 9.55 per cent. of all cases reported. This showing is quite sufficient to disprove the idea of immunity which the negro is supposed to enjoy.

Geographically these stones were distributed as follows: Alabama, 10; Arkansas, 11; Florida, 28; Georgia, 90; Kentucky, 56; Louisiana, 19; Mississippi, 99; North Carolina, 126; South Carolina, 66; Tennessee, 128; Texas, 98; Virginia, 430.

Sex is specified in 780 cases, and not stated in 280. Of those in which the sex is indicated, there were 691 in males, and 97 in females, or about seven times oftener in males than in females.

There were 182 cases not subjected to operation, and 584 in which the stones were removed by the following methods: Lateral perineal, 249; median perineal, 100; suprapubic, 138; vaginal incision, 32; dilatation of female urethra, 28; crushing, 35, and operation not given, 5.

Of those operated on, 541 recovered, and 43 died. No report of operation in 304 cases. Dr. Johnston's own cases are incorporated in the foregoing statistics. During his twenty years practice, he has made notes in forty-one cases, which is the third largest list furnished by any reporter, and what seemed to him the enormous number of cases in the negro in the face of its supposed rarity, caused him to set on foot the inquiries leading up to this paper. Of his forty-one cases, there were thirty-five in whites, six in blacks, thirty-nine in males and two in females. Thirty-nine were operated on, and two were refused operation on account of advanced kidney disease. Both died. In twenty-five cases, lateral perineal lithotomy was done, twelve suprapubic, and in the cases of the two females the urethra was dilated and fragmentation practiced. He had no deaths following operation.

PRESIDENT'S ADDRESS.

This was delivered by DR. L. MCLANE TIFFANY, of Baltimore, who said the aim of the Association is twofold: 1, to do advanced work; and 2, to bring it to the notice of and aid other members of the profession. The one complementary to the other, neither complete alone, yet attaining full fruition when associated. The fellowship of the Association is a very extended one, embracing a territory of many degrees of latitude by many degrees of longitude, with infinite varieties of soil, temperature, environment, etc., yet the transactions did not show those exact local records from which facts may be generalized, applicable to the whole area, or a large part of the area, from which the fellowship is drawn. It did not seem reasonable to him to suppose that a surgical operation done among the mountains of western North Carolina was going to behave quite the same way that a similar operation would if done on the Gulf coast of Texas. It did not seem reasonable that similar surgical operations on the banks of the Mississippi and the central plateau of Tennessee would behave the same way. Accurately kept charts with exact and careful notes would unquestionably show differences not yet put on record by any one from which much clinical information could be learned. Again, he questioned whether surgical operations undertaken during the great heat of summer, or after the long continuance of summer heat, would show similar charts or give like results when compared with operations upon patients not subjected to high atmospheric temperature, either temporary or of long continuance. No association had a membership better situated or more competent to carry on a series of such investigations.

DR. WILLIS F. WESTMORELAND, of Atlanta, Ga., made some remarks on

CYSTOTOMY FOR STONE.

Among other things, the author said that any surgeon of the present day, who had had a long and extensive experience in operating for stone, must acknowledge that the upper operation of cystotomy is better and safer. Unless there is a pathologic condition of the blood or infection of the bladder as recognized by chemic or microscopic examination, the surgeon could decide before operation what course to pursue. The anatomy of this region, as laid down by the investigations of Strong and Peterson upon the cadaver and frozen sections, lead the surgeon astray, and the observation of the practitioner is more to be depended upon than any literature we have thus far relative to the subject. In operations for stone, the author said he cares not whether he sees the base of the bladder; that he depends upon touch, and that therefore rectal distension might be dispensed with. Instead of rectal distension, he recommends that a vessel of water be suspended three or more feet above the patient, according to the amount of distension necessary. Where the surgeon desires to effect distension of the bladder by a vessel, if the bladder is ulcerated at any point, with a thickening here or thinness there, it could be done without sudden force, and if

the patient during the operation should sneeze or cough, or contraction of the bladder take place, instead of contracting upon a solid mass of fluid, the fluid is forced back into the vessel and there is practically no increase in pressure.

Dr. Cornelius Kollock, of Cheraw, S. C., read a paper entitled

ABDOMINAL PREGNANCY.

After referring to the pathology of extra-uterine fetation and the classification of its varieties by early writers, he reported the following case: Oct. 18, 1894, he saw for the first time a dark mulatto, 34 years of age, the mother of three children, whose general health had been good until within the last fifteen months. The abdomen was very much distended, measuring at the umbilicus sixty-three inches. Fluctuation was evident and wave tap very distinct. The patient affirmed that she was pregnant, and that she had gone four months beyond the actual period of gestation. After a thorough examination laparotomy was decided upon, and an incision was made four inches in length below the umbilicus. The walls were so thin that the instrument penetrated the cavity before it was certain that the abdominal muscles were divided. There was a sudden and copious discharge of offensive matter. An immense fibroid was removed from the anterior portion of the sac. The cavity also contained a fetus weighing ten pounds. The placenta had undergone fibroid degeneration with only a small part of the placental tissue remaining. The patient was extremely weak when operated on. She lived comfortably for five or six weeks after operation, and the doctor thinks she would be alive to-day were it not for the unfortunate intervention of intestinal obstruction.

Dr. J. T. Henry, of Chester, S. C., followed with a paper in which he reported a

A CASE OF EXTRA-UTERINE PREGNANCY.

In this case the abdomen was freely opened and a large dark mass nearly as large as the head of an adult came into view. The uterus was crowded very much forward. The mass lay posterior to it and was much adherent to the fundus posteriorly and to the promontory of sacrum. The fimbria of the right tube spread out over the covering of the mass. This mass was with some difficulty freed from its attachments except that portion to the fundus of the uterus, and it was thought best to remove the uterus with it, which was done after tying and cutting the broad ligaments. The fetus was five inches long and lay between the placenta and the uterus, the cord being attached to the left margin of placenta. The abdomen was thoroughly washed out with sterilized water and closed without drainage. Patient sat up on the fourteenth day after operation and was out of bed in twenty-five days. She has gained twenty-five pounds in weight since operation.

THE TECHNIQUE OF THE BURIED SUTURE.

By Dr. Henry O. Marcy, of Boston. The constant receipt of letters, from all parts of the country, containing inquiries concerning the method for the safe application of the buried animal suture, prompted the author to write this contribution. At the risk of seeming dogmatism, he would venture to assert that aseptic wounds, with very few exceptions, should be primarily closed by buried tendon sutures and hermetically sealed with iodoform collodion. Carefully selected tendons are to be preferred for buried sutures, since primarily their anatomic construction makes them stronger, more compact, and as a consequence, more resistant to the softening proeess which must ensue when buried in the living structures. When properly preserved they have not been subjected to bacterial decomposition, and hence may be sterilized without detriment to their ultimate elements. When tendon has been chromicised, it is best preserved in a sterilized oily fluid. Experience has shown that by far the best preserving fluid is linseed oil sterilized by heat, to which carbolic acid has been added. Tendon improves so much when thus kept that he rarely uses it until it has been in carbolic acid from three to six months. A method far too common has been to preserve chromicised catgut and tendon in absolute alcohol, boiled under pressure. There is no question but that such material is absolutely sterile, but the important factor has been singularly overlooked, that by this process the chromic acid is dissolved out of the tendon, thereby leaving it really less valuable than if chromic acid had not been used.

The infection of wounds may never be absolutely prevented, but the experience of surgeons teaches us daily to what a marvelous extent it can be minimized, reduced in aseptic wounds, he confidently believes even in hospital practice, to less than 5 per cent. Indeed, not long ago he examined his own personal experience, reviewing six hundred operations with only 2 per cent. of septic cases,—evidence ample to show the safety of the coaptation of wounds by means of the buried animal suture.

One of the interesting features of the meeting was the presentation of a gavel made from the leg of the operating table used by Dr. J. Marion Sims in his office for twelve years preceding his death. It was the gift of his son, Dr. H. Marion Sims.

The following officers were elected:

President, Dr. E. S. Lewis, New Orleans, La.

First Vice-President, Dr. Joseph Taber Johnson, Washington, D. C.

Second Vice-President, Dr. Richard Douglas, Nashville, Tenn.

Secretary, Dr. W. E. B. Davis, Birmingham, Ala.

Treasurer, Dr. A. M. Cartledge, Louisville, Ky.

Place of meeting, Nashville, second Tuesday in November, 1896.

Chairman of Committee of Arrangements, Dr. W. D. Haggard, Nashville, Tenn.

Tri-State Medical Society of Alabama, Georgia and Tennessee.

Seventh Annual Meeting held in Chattanooga, Tenn.

Dr. M. Cunningham of Birmingham, Ala., presiding. Opened with prayer by Rev. J. W. Bachman.

Following reports of officers, the President delivered the Annual Address on

TUBERCULOSIS,

based on his experience in the prisons of Alabama. The statistics showed a great predisposition of the negro to tuberculosis, which he explained as follows:

1. The negro has acquired, since his emancipation, a predisposition to tuberculosis which is hereditary.

2. A greater liability to diseases which predispose to tuberculosis, especially bronchial and intestinal catarrh and pleurisy.

3. He is physically, mentally and morally inferior to the white man, therefore,

4. He is more liable to contract disease, particularly tuberculosis and thoracic diseases (local and from infection) generally.

5. His changed social, religious, political and industrial relations, involving as a rule, a change from the segregate to the aggregate, from a country to town and from farm to public works.

6. His disregard to all rules of sanitation.

The greatest mortality was from 20 to 30 years. In two prisons a mile apart, under the same management and sanitary conditions, there were at No. 1, forty-five deaths from tuberculosis; at No. 2, twenty-six, explained by the fact that there was an epidemic of diarrhea at No. 1, proving that intestinal catarrh predisposes to tuberculosis of the peritoneal form. The excess of mortality, nineteen, being exactly the number which died from tubercular peritonitis at No. 1. An epidemic of diarrhea was always followed by a large number of cases of tubercular peritonitis. The causes of tuberculosis he defined to be: 1, essential, the tubercle bacillus; 2, predisposing, (*a*), an inherited predisposition; (*b*), an acquired constitutional or local predisposition. The predisposing never alone producing the disease, the essential rarely. Primarily, it is the result of hetero-inoculation and as a rule it is a local infection prodncing chronic local changes, the general and acute forms being due to auto-infection. In general acute miliary tuberculosis the lungs, peritoneum, spleen, sometimes the liver, rarely the kidneys were involved, the patient dying before the caseous stage set in. These cases followed pleurisy, frequently, notably after a large amount of fluid had been withdrawn, and from tubercular glands. In the chronic general form, the process involves the same organs, but the infection is not so general and the caseous stage is often reached and local inflammatory lesions generally found. In both, there may be an active tubercular inflammation developed in some organ terminating rapidly. The bacilli were distributed by the circulation. The acute forms are the result of auto-infection generally, from a chronic tuberculosis which may not have been suspected. The acute forms are rare; the bone is rarely affected, the one most frequently involved being the sternum. H. Berlin thought the reason the disease prevailed so largely in prisons was: 1, because while apparently clean they contained

germs; 2, because the convicts were generally in a weakened condition; but, 3, and most important, was the fact that they inhaled dust which under the microscope shows sharp corners and these cut the tissue and admit the bacilli.

DR. C. HOLTZCLAW had noticed the frequency of tuberculosis in county institutions. While the left lung was first affected in the white, it was the right in the negro. The greater liability of the negro to the disease was due to the fact that the white race has acquired an immunity from long contact.

DR. J. B. MURFREE could not indorse the idea that diarrhea induced the disease, except as it weakened the patient. While the bacillus was the cause, an equally important factor was the predisposition.

DR. J. B. COWAN thought that we could lift up the vital energy and put the functional activity in such a condition as to resist the disease.

DR G. A. BAXTER differed from Dr. Murfree in regard to diarrhea as a factor in the causation of the disease. It acts by allowing an entrance to the bacilli through abrasions. One agent the writer did not mention was the food and especially the milk. In China, where tuberculosis is unknown, it is attributed to the non-use of milk. He had frequently seen tuberculosis in bones and in the glands of the neck. He could see no objection to the removal of the latter. An imperfect removal might result in general infection but where there were two or three they could be thoroughly removed.

DR. P. L BROUILLETTE regretted that the microscope had not been used by the writer, as it was sometimes impossible to diagnose tuberculosis.

DR. CUNNINGHAM said that dust produced a fibroid phthisis, but did not produce tuberculosis, though it might predispose to the disease. He did not find typical tuberculosis in the negro. Believes he is acquiring a predisposition to tuberculosis. Both lungs were affected as a rule. The diarrhea predisposes to the disease by abrading the membrane and giving entrance to the germs. The weakness of the paper was that the microscope was not used, but the clinical history and gross lesions post-mortem were enough to complete the diagnosis.

DR. G. MANNING ELLIS, of Chattanooga, read a paper entitled "Pseudo-Hypertrophic Muscular Paralysis," and exhibited a patient, a boy, who gave the history characteristic of the disorder. He was late in attempting to walk. The muscles seemed large. The gait was oscillating. While apparently healthy and well developed, he seemed weak. The difficulty in locomotion increased. The characteristic symptoms were shown; the peculiar gait, the manner of rising by placing the hands on the knees and climbing up on the thighs, the lordosis, absence of tendon reflex and diminution in size of the muscles of the legs which comes after the enlargement. The upper extremities showed the enlarged infra spinatus and the decrease in size of the latissimus dorsi producing an absence of the axillary fold.

DR. WILLIS F. WESTMORELAND asked if there was an adherent prepuce. The reply was that there was not. He reported two cases where there was adherent prepuce; in one an operation had been performed in a late stage but with no benefit. He thought that if there was irritation from this cause, an operation before the disease began would be of benefit.

A reception was tendered the Society by Dr. and Mrs. R. P. Johnson at the Southern Sanatorium at 8 P.M.

SECOND DAY.

DR. J. B. MURFREE, of Murfreesboro, Tenn., read a paper on

THE PLACENTA—HOW AND WHEN DELIVERED.

He maintained that as soon as the child is born, Credé's method should be employed. If the placenta does not come away in twenty minutes, gentle traction should be made on the cord. Undue force should not be used. If this does not succeed and especially if the placenta presents centrally, the hand should be introduced into the uterus and the edge freed from its attachments. If the placenta was delivered as soon as the child was born, it would leave the mouths of the vessels open. Exactly when to deliver can not be definitely stated in every case. Most practitioners wait too long.

DR. R. R. KIME does not agree with the author in advising introduction of hand into vagina until other means have been exhausted; prefers wrapping the cord around the first two fingers of the right hand and following up to placenta, then by pressure on placenta, and gentle traction on the cord, it will usually slip out. Objects to ergot in obstetric practice.

DR. W. G. BOGART delivers the placenta as soon as he ties the cord, gives the child to the nurse and prepares his hands which takes about twenty minutes. He grasps the fundus and squeezes the placenta out if possible; if not successful, he introduces two fingers into the uterus and grasping the edge of the placenta makes a rotary motion with the other hand still on the fundus. Never makes traction on the cord which he deems dangerous. Ergot should not be given to expel the placenta. The important point is to get all the placenta away. Has no fear of putting the hand into the uterine cavity if it is thoroughly clean, nor does he deem it necessary for this reason to use an intra-uterine douche.

DR. PRESTON SCOTT thought we were all too hasty to get rid of the placenta. Time should be given for tonic contraction. Gentle traction should be made on the twisted body of the placenta. Had excluded ergot from his practice entirely. Used the hot water douche to promote contraction.

DR. J. P. STEWART waits longer than twenty minutes; an hour, if necessary, if there is no hemorrhage. If the placenta was in the vagina, delivers at once, as it acts as a foreign body causing contraction and tearing the membranes.

DR. J. B. COWAN thought there was a happy medium between twenty minutes and an hour. He assists nature during the pains. If necessary, puts his hand into the uterus. Post-partum hemorrhage can be prevented by steady pressure on the fundus kept up an hour if necessary. Never pulls the cord.

DR. MURFREE said that ergot was liable to produce hour-glass contraction. There can be no harm in introducing the hand into the uterus.

DR. E. H. SHOLL, of Birmingham, read a paper entitled "Reflect," reporting cases which were not relieved because not properly investigated by means within the reach of every practitioner. A case treated for liver disease was relieved by a course suggested by an examination of the urine; one diagnosed as consumption responded to a similar course; one of headache was found to be due to diabetes. In these cases, no examination of the urine had been made. Doctors should study their cases more.

DR. J. B. COWAN said that the lesson of the paper was that doctors should think more. In this respect he found fault with modern education, which was too much a process of cramming.

DR. WILLIS F. WESTMORELAND thought that the modern medical school taught that every case should be as well examined as if for life insurance. The day when albumin could be seen by looking into a bottle was past. There was no college of any pretension that did not teach examination of the urine and the use of the microscope. The modern students were better qualified than those of the past.

DR. J. B. MURFREE thought that the point of the paper was that we did not take time to think; that we did not know how to make these examinations. The facts were not properly put together.

DR. PRESTON SCOTT was surprised that in many cases seen in consultation, no examination of the urine had been made and the cases not properly studied.

DR. W. C. TOWNES asked what the writer meant by a rigid diet.

DR. SHOLL said that he meant the exclusion of all starchy foods, the use of meats, milk, oysters, cheese, turnips, greens and such articles.

(To be continued.)

Amendment of South Dakota Laws relating to Dissection.—Section 351 of the Penal Code of South Dakota, being section 6552 of the Compiled Laws, has been amended by adding thereto, as Subdivision 4: "4, whenever the person dying is at the time of death an inmate of any charitable institution, supported by the State of South Dakota, and such person is at the time of death under medical treatment by physicians appointed or under supervision of said authority: *Provided, however*, That before such dissection is allowed an order shall be made by the superintendent or person having charge of such charitable institution, stating that in his opinion such dissection is necessary, or advisable for the purpose, either of obtaining knowledge of the cause of the death of such person or necessary for the treatment of others; and *provided further*, That before such dissection be allowed, the consent of the next of kin of said deceased person shall be obtained, unless said deceased person shall have been neglected or abandoned by said kin for a period of not less than six months next preceding the time of death of such person, and when no inquiry for, or in regard to said deceased person shall have been made by the next of kin of said deceased person, for a period of six months next preceding the death of such person, such person shall be deemed abandoned for said period."

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SATURDAY, NOVEMBER 30, 1895

THE PSYCHOSES OF OLD AGE.

All the forms of psychoses found in adult life may be noticed in old age also. Mania was first observed, then melancholia, and more recently FURSTNER has pointed out the frequency of mental confusion (*verworrenheit*) in them. Other authors have published interesting cases of systematized delirium, and RITTI has added instinctive insanity and hysteria.

RITTI, who is physician to the National Insane Asylum at Charenton, France, read a paper on this subject before the recent French Congress of Alienists and Neurologists. Mania, he states,[1] while the first psychosis noticed in old people, is by no means the most frequent. Of eighty-one cases of senile insanity collected by FURSTNER, only nine belonged to this variety. Published cases are rare also, especially if we eliminate the cases of an intermittent type. The disease may present itself under its diverse forms, from simple maniacal excitation to mania with fury. As to whether it presents any different features from the usual adult type, the number of cases is insufficient as yet to determine. We are also uncertain as to the termination of senile mania, on account of lack of sufficient observation. All authors admit that recovery may occur, but sometimes on insuffi cient grounds. However, FURSTNER in the nine cases under his observation had three recoveries with two improvements. It is probable that in most cases, this psychosis with its continuous furious agitation and constant insomnia will lead sometimes to a fatal issue, but more often to the most complete dementia.

Melancholia is the type of psychosis most often observed in old persons. FURSTNER in his eighty-one cases observed it fifty-four times, or nearly 67 per cent. Among them were the three principal types: simple, thirty-three cases; anxious (melancholia agitata), eighteen cases; stupid, three cases.

Suicide is frequent in old age. This seems paradoxical, yet it is borne out by figures. From 1835 to 1880 there were in France 191,289 suicides among both sexes, and 48,931 of these were over 60 years of age. This may be analyzed a little more in detail:

	Of 148,339 men	Of 42,950 women	Of 191,889 both sexes
61–70 years	24,065	6,548	30,613
71–80 "	11,786	3,538	15,324
Over 80 "	2,182	812	2,994

This table is extremely interesting. It shows us that the female sex commits suicide nearly four times less than the male sex, and that a quarter of all suicides occur in the last years of life.

The most recent statistics do not modify the preceding figures. Those for 1891 (the last that have appeared) show there were in that year 8,884 suicides, 2,854 of whom were over 60 years. Again analyzing these we find:

	Of 6 937 men	Of 1,947 women	Of 8,884 both sexes
61–70 years	1,325	311	1,636
71–80 "	780	191	971
Over 80 "	195	52	247

As to the reason for these numerous suicides, in some cases they are due to external causes, but in most cases the preponderant rôle is the psychosis. In old persons as in adults, taking one's life is generally the consequence of some mental trouble, a psychosis either hereditary or otherwise.

Under the name, mental confusion, FURSTNER[2] describes a hallucinatory psychosis frequent in aged persons (he has observed eleven cases) which seem in direct relation to atheromatous processes. The prodromic stage is characterized by anomalies of the circulation: cephalalgia, heaviness of the head, slight attacks of vertigo. Then there are digestive symptoms, constipation, and from a psychic standpoint a tendency to shed tears easily, great irritation, loss of memory, etc. The patient rapidly reaches the acute stage with an explosion of all symptoms, confusion of ideas, a complete disorientation of the intellectual faculties, hallucinations, and illusions. The agitation becomes violent, the movements disordered.

The somatic symptoms of this acute phase are important to note. The pulse is rapid, small, irregular; face and extremities slightly cyanotic; gastric symptoms, subicteric tint. To these are added the cerebral symptoms: inequality of the pupils, hemiparesis of the face and extremities, aphasic and paraphasic states, violent headache, syncope, etc. These symptoms are not all constant, and tend to disappear slowly. The prognosis of this type is not at all unfavorable, and in a few months patients generally present marked ameliorations. In FURSTNER's cases six were cured, two became incurable, two died from pneumonia, and one became more lucid.

[1] Arch. Clin. de Bordeaux, 1895, No. 8.

[2] Arch. für Psych., xx, 465.

Systematic delirium. Of this type two varieties have been found so far, among the aged: delirium of persecution and of grandeur. Published cases are rare as yet, but enough are known to show that this delirium is not confined to adults. The aged may create delirious conceptions with a cohesion, an energy, a logic—if we may call it so, fully the equal of those found in other periods of life.

Moral or instinctive insanity. RITTI uses this term to designate those pathologic states consisting principally of an often irresistible ardor for culpable and dangerous acts. Age is not exempt from this species of aberration, and the less so, since advancing age with its depressed will power weakens the resistance to morbid impulses. Hence, the cases of kleptomania, of homicidal mania, and especially those frequent aberrations of the genital sense observed as often in women as in men.

Hysteria is another psychosis which may be found even in advanced age, as HENRY has pointed out. Anesthesia, and especially hemianesthesia is rare in the aged hysteric, while hyperesthetic zones, and notably the hysterogenous are frequent. Convulsive movements of the limbs are also infrequent, but on the contrary, painful and spasmodic phenomena in the viscera are very intense. So we may define senile hysteria as a "painful hysteria with splanchnic manifestations." As regards the mental state, this differs but little from that we are accustomed to in younger persons.

Somatic symptoms. The study of these symptoms in psychoses of the aged is of prime importance. All the organs of the economy should be examined with scrupulous care. Disturbances of the cerebral circulation (ischemia and hyperemia) are frequent in the aged, either from cardiac lesions or from atheromatous arteries. The urinary organs rarely escape, micturition becomes difficult, cystitis is frequent. The kidneys are often diseased, with concomitant urinary insufficiency and uremic intoxication, and it may even be asked if most of the cases of mental confusion are not due to this intoxication.

THE PHYSICIAN IN THE BIBLE AND IN THE TALMUD.

Very few people study the Bible as a source of purely historical information. The same remarks are also true of the Talmud. While not so very few studies have been published of medicine and medical men as represented in these two books, yet it can safely be said that the majority of such studies are practically useless from a strictly scientific standpoint because they are more or less tinged with personal religious sentiments, and lack the purely objective character of historical researches. It is consequently very interesting to read a recent historical study of the physician in the Bible and in the Talmud by DR. PREUSS,[1] of Berlin, concerning which there can be no doubt but that its representations are entirely uninfluenced by the religious sentiments of the writer.

The physician of the Bible and of the Talmud treated not only internal diseases, but also the diseases of the eye, of the teeth and the various surgical affections, especially injuries of various kinds, such as the bites of snakes, fractures and the like. In one place it says that when a person tumbles from the roof, then the doctor comes and puts plaster on his head, his hands and his feet. Amputations were performed under various indications such as gangrene, in leprosy, and other conditions. The EMPEROR TITUS VESPASIANUS was trephined. It is even mentioned that attempts at covering cranial defects were made. A very frequent operation was the ritual circumcision. The rōphē, as the Biblical physician was called, was also consulted in regard to gynecologic affections, and it seems that he was interested in midwifery.

In doubtful religio-legal questions the physician, or rōphē, was sometimes called as an expert. It is also quite clear that some attempts at scientific investigation were made, because it is stated that students of ISMAEL examined post-mortem the body of a prostitute, who had been burned to death under the sentence of a Roman judge, in order to determine the number of bones in the human body. Like the doctor of antiquity in general, the rōphē was also his own druggist. He had a receptacle in which "all remedies are contained." He prepared the theriac, that wonderful mixtum compositum of antiquity which consisted of sixty-four ingredients. He spread his own plasters.

Concerning specialists we learn only this, that a certain BEN ACHIJAH was appointed for "intestinal diseases" of the priests of the temple. But in addition to this temple doctor, official medical positions do not seem to have existed. Military physicians are not mentioned, and KING JORAM had to return to his home in order to be cured from sickness. This is not so very remarkable, because in Biblical times neither Greece nor Egypt possessed any sanitary systems. As regards the time and the course of study of Biblical physicians we possess no information whatever. PUSCHMANN[2] assumes that the student received personal instruction from persons experienced and trained in medicine. We read of a student of a physician from whom "he had learned all the ordinations of physic." There is no mention of any medical schools.

The first physicians spoken of in the Bible were Egyptians, slaves of Joseph. Their activity seems to have been confined to the art of embalming. The regulations concerning leprosy contain no mention of medical men.

[1] Archiv für path. Anat. u. Phys. und für kl. Medicin, Bd. 138, Heft 2.
[2] Gesch. d. medic. Unten., B. 26.

In the Talmud, four men are expressly designated as "the doctor:" 1, the physician THUDOS or THEODORUS who, it is assumed, studied in Alexandria, because he is frequently quoted as saying that in Alexandria every female swine and every cow was castrated before exportation in order to prevent the increase of the race outside of the country. It is also stated that he came into the schoolhouse and declared that certain vertebræ and cranial bones placed before him did not come from the same person. 2, TOBIJAH and 3, BAR GIONTI, concerning whose achievements nothing is known. 4, the physician MINJOMI or BINJAMIN, who designates all fluids as noxious for the ear except the juice of the kidneys.

The work of physicians was always highly appreciated among the old Jews. In Hebrew the designation physician, is derived from a root signifying to relieve, ameliorate, whereas in other languages the term usually comes from a root meaning to know. "Even when the physician sees that his patient is near to death he says to him: Eat this, not that; drink this, not that; but he does not say, Your end is near." The physician was responsible for his doings. Any intentional injury was punishable according to the laws of the land, but if the injury was the result of a mistake on the part of the physician then he was not held responsible to the worldly judge, but the decision and punishment was left to the higher judge. It will be remembered that in Greece and Rome the physician was exempt from all punishment, even for the intentional killing of the patient. The Jewish physician was not permitted to treat heathens any differently from his own fellow-believers; he was to bestow equal care on both. This liberal tendency went so far that even heathen physicians of standing were allowed to perform ritual circumcision.

Medical services were recognized in those days as worthy of compensation. "A free doctor is no good," said a wounded man to his assailant, whose duty it was to "pay the bill," and who wanted to bring the wounded to "a free dispensary." We read of a doctor that he had a certain place in his consultation room where the money he was to have was placed. If the doctor observed that a patient was poor, then he gave the patient money, and said: "Go, strengthen yourself!" Concerning the liberality of the fees of Talmudic physicians nothing is known.

THE WORK OF THE OPHTHALMIC SECTION FOR 1895.

Preceding issues of the JOURNAL have laid before its readers the work of the Ophthalmic Section. Those interested in this subject know best its worth, its scope and its thoroughness. Such as were so fortunate as to see the members in session at Baltimore are able to add personality to the actual work and make its value more realistic. It suffices to say that every band of ophthalmic workers in the United States and Canada was adequately represented, and that the papers under consideration represent the ophthalmologists of the entire continent.

The most casual study shows that the papers and discussions were the result of careful planning by the Section officers. To the Chairman, DR. JACKSON, and the Secretary, DR. WÜRDEMANN, is due the credit of perfecting as well as devising these plans which were fully adopted by the Section. The brevity of the papers and discussions is accounted for, when it is known that each individual was notified in advance of his preparation that but twenty minutes would be allowed for the reading of his paper, and but five minutes for any discussion. This compelled crisp statement of fact and reasoning, and gave the Section a succession of fresh speakers. This character of the papers and discussions renders their study by the worker in other fields easier and more attractive.

Papers discussing portions of one general subject are found placed in such logical order as to be discussed and studied together as well as separately. Thus incipient cataract, the operative treatment of immature and some forms of zonular cataract, and the operation for secondary cataract formed one group.

Then we find a group of papers discussing many points respecting plastic operations of the eye, the restorations of the eyelids with sliding flaps, transplantations of skin in plastic operations on the eyelids, skin grafting in ectropion and entropion, transplantation of a strip of skin into the intermarginal space; some cases of the restoration of the eyelids by plastic operation.

Another series of papers treat of intra-ocular diseases and injuries, as the evisceration of the eyeball, histologic and bacteriologic notes on cases of penetrating wounds of the eyeball, etc., hemorrhage into the retina and vitreous in young persons associated with evident disease of the retinal blood vessels, extensive colloid changes of the choroid, prognostic significance of albuminuric retinitis.

There are many papers dealing with various points relating to the ocular muscles, altogether forming a timely discussion of many moot questions. Among these may be mentioned: the technique of tenotomy of the ocular muscles; the slight effects sometimes produced as the result of free tenotomies of the ocular muscles for heterophoria, the limitations of tenotomy of the ocular muscles, tendon advancement with a special indication for its employment, the indications for, advantages and technique of muscle shortening, strabismus, the extent to which recently suggested methods of muscular exercise should displace tenotomy in the treatment of heterophoria, practical points gained in the treatment of one thousand cases of insufficiency of the ocular muscles, hysterical affections of the eye muscles, and

some remarks on the paralysis of the superior rectus muscle. As in the other groups of papers, a discussion of many of the points made, added greatly to the aggregate value of all.

Another group of papers discuss points respecting diseases of the orbit and the tarsal cartilages.

Still another group discusses moot points on refraction of the eye and includes an elaborate report of a committee on the examination and care of eyes during school life.

Finally, there are a considerable number of unclassified papers treating of living questions in ophthalmology. In whatever manner regarded, the Ophthalmic Section for 1895 merits the attention of every worker in this field, and will prove helpful to many in other fields of medicine. The methods and spirit of the Section must stimulate other sections to that which is best, and materially assist in raising the entire ASSOCIATION to the highest attainable standard, and so promote the real development of the entire medical profession. It may interest those not members of the Section to know that the volume of Transactions of the Ophthalmic Section, with the discussions complete, are now passing through the press, and can be obtained at the JOURNAL office for $1.

QUIS CUSTODIET CUSTODES?

The New York *Medical Record* in one of its latest issues calls attention to the impropriety of the chief medical member of the New York State Lunacy Commission appearing on the witness stand as a paid medical expert in cases where insanity is involved. Its exceptions are well taken, since the Lunacy Commissioner is an officer who may in that capacity have later to pass on the same cases. He stands between the insane and the asylum authorities under certain circumstances, and his prejudging their case as an expert witness is in a way a violation of their rights as it is also a wrong to the public.

In Great Britain, we believe, no asylum officer is legally permitted to testify as to the mental condition of a person who may afterward be committed to his care, or, at least, to have any share in the certification of his insanity for his commitment. The rule is not a bad one as far as it applies to matters of commitment to the special charge of the testifying witness, though it should not be so widely construed as it is perhaps in England, so as to really exclude competent expert testimony where individual interest could play no part in making or modifying the opinion. But if it is applicable to asylum keepers, it is still more so to those who are over them in a supervising capacity, and this, it would seem, ought to suggest itself to every one holding such positions. The presumption that such is the case is probably the reason for any lack of specific statutory provision to that effect.

The really most essential and important function of a lunacy commission, and for this every State should have one, is a judicial one, and it should therefore command the highest legal and medical talent for the solution of the dubious questions relating to mental derangement that may come before it. It should be the protector of the individual as well as of the public,and its members should keep themselves from all bias or precedent that can disadvantageously affect them in either of these relations, and as they are really, in a sense, a court of last resort they should not put themselves on record as having opinions as to individual cases that can by any possibility come later under review by them.

These, at least, would seem to be the only views that could be held on a full consideration of every phase of the case, by men with a high sense of personal honor. But with what MR. HOWELLS calls the "business ideals" of the present age, the sense of honor is a variable quantity, and many respectable and even estimable people fail to realize the higher signification of the term in all the practical relations of life. In these matters, even if honor, which may seem to some a sort of medieval and aristocratic conception, does not appear to be involved, a strict sense of propriety which often amounts to the same thing and is quite akin to nature, should be cultivated and made to regulate conduct.

A lunacy commission does not serve its full purpose by devoting itself to the regulation of expenses and the collection of statistics of insanity; these are the "tithing of mint, anise and cummin," and other things yet are the "weightier matters of the law."

CONNECTICUT KEEPS "OPEN HOUSE" FOR QUACKERY.

The profession of Connecticut has been unable to secure the same class of registration acts that obtain in many of the eastern States, which fact is alleged to be painfully felt in the competition of practice in the large towns. The October issue of the Bulletin of the State Board of Health shows that a movement is on foot that will tend to correct the evil. It says:

The following action was taken at the last meeting of the New Haven Medical Association, having been proposed by DR. MAX MAILHOUSE:

WHEREAS, In consideration of the fact that large numbers of graduates of colleges, which in this State are recognized as legal and reputable, are being rejected by examining boards in other States where the possession of such diplomas is not in itself sufficient to entitle the holders thereof to practice; and

WHEREAS, As a consequence of the foregoing fact, this State has become the dumping ground of other States with respect to und sirable practitioners; and

WHEREAS, In our opinion it behooves the State for its own protection to guard against such invasion, it is

Resolved, By the New Haven County Medical Association, that the attention of the other county associations, the various State medical societies and the various committees on lists of medical colleges be called to this state of affairs, and that, pending legislative action, these committees be re

quested to revise such lists that they conform to the tenor of these resolutions: further be it

Resolved, That the State Committee on Legislation be instructed to advocate the amendment of the law, so that all candidates for registration be required to pass an examination, as is now the case in New York, Pennsylvania and many other States.

Adopted by the New Haven County Medical Association at its semi-annual meeting in Meriden, Oct. 17, 1895.

CORRESPONDENCE.

The Rush Monument.

MONTCLAIR, N. J., Nov. 18, 1895.

To the Editor:—I note among the bright paragraphs which as usual make up the column of Miscellany in your issue of the 9th inst., one relating to the monument which our friends, the homeopaths, propose to erect to the originator of their faith. I observed also that you acknowledge that the regular profession is somewhat slow in building a monument to one of the pioneers of medicine in America, Dr. Rush. I could not help thinking as I read, that it is comparatively easy to accomplish anything when the faith, enthusiasm, *amour propre*, or self-seeking of a number of people are directed in one channel or toward one object.

There are many names in regular medicine beside that of Dr. Rush which ought to be perpetuated and which will be perpetuated, with or without a monument, so long as medicine is faithfully studied and honestly practiced. In homeopathy, on the other hand, there is only one name, that of a man, a foreigner, who like Mohammed was an enthusiast, if not a fanatic, whose *delirium du grandeur* led to the evolution of the tenets of the sect which now seeks to do him honor. His memory does not need the monument. He will never be forgotten. Great is homeopathy and Hahnemann is its prophet!

Meanwhile, those of us whom a recent talented homeopathic writer dubs, "the dominant school" of medicine, had probably better concentrate our efforts and raise a monument to Dr. Rush and also to the immortal Warren, as two typical *American* statesmen, patriots and physicians.

Very truly yours, RICHARD C. NEWTON, M.D.

Dr. Gihon writes to contradict the story that his committee have been negotiating with the same sculptor as the "homeopathic" people.

The Passing of Hypnotism.

SHAFTSBURG, MICH., Nov. 20, 1895.

To the Editor:—In the JOURNAL of November 16, p. 867, is an editorial, "The Passing of Hypnotism." The criticisms in said editorial seem well taken. Some six or eight years ago this community was a witness of its effects as a psychic agent. This note is penned, needlessly perhaps, to illustrate the correctness of your conclusions. Hypnotism is, unquestionably, a dangerous agent, requiring a morbidity of mind for its manifestation. Now to our case:

A young farm laborer went to a public meeting where hypnotism was practiced by a traveling lecturer, as he styled himself. The young man was hypnotized. Next day he was excused from work because his employer discovered that, using his own language, "He did not know what he was about." There was a condition of mental depression, a dullness, amounting almost to stupidity, which lasted many months. People who have seen him since I have, declare he has not yet recovered and never will. An agent which requires a morbid state of mind for its exhibition, must be dangerous. Hypnotism can not pass out of therapeutics too soon. It seems degrading for scientific men to use the "tools" of "traveling lecturers." Its use seems not a little like "*Similia similibus curantur*" with the *curantur* wanting.

G. W. CHROUCH, M.D.

Was It Leprosy?

SPOKANE, WASHINGTON, Nov. 22, 1895.

To the Editor:—My experience with lepers would point to Dr. McDougal's cases as being undoubtedly leprosy.

In the Sandwich Islands many cases can be found to disprove Dr. Ashmead's statement that "if they were lepers the mother would have been infected too,"

Dr. Geo. L. Fitch, of San Francisco, who was for some years medical officer at Honolulu and by whose courtesy I saw some hundreds of cases of leprosy, asserted that all the leprosy in the Islands among the natives was "syphilis run riot in a virgin race," and defended his position so vigorously that the Government sent to Germany for Dr. Arnold to decide who was right. This was necessary as all lepers are sent to Molakai to the leper settlement from which place only death can relieve them.

Dr. Arnold's decision was in keeping with the opinion of all the old-time doctors in the Islands and was based upon months of careful research, and I am sure that if Dr. McDougal's two patients were to go before any medical examining board at Honolulu, they would be sent to Molakai without a dissenting voice. Very truly,

D. C. NEWMAN, M.D.

Triplets.

MILTON, KY., Nov. 23, 1895.

To the Editor:—Mrs. Wm. H. Meiers, a German, primapara, 31 years of age, gave birth to two boys and one girl on the 17th inst. One, a boy, is still living, the other two having survived but a few hours.

A woman in this (Trimble) County once gave birth to four children at one time. S. E. HAMPTON, M.D.

BOOK NOTICES.

Pediatrics; the Hygienic and Medical Treatment of Children. By THOMAS MORGAN ROTCH, M.D. Illustrated. Philadelphia: J. B. Lippincott & Co. Cl., pp. 1124. 1896.

As might be expected, coming from Harvard, our oldest university, the work is at once scholarly, painstaking and thorough. It is divided into eighteen divisions as follows: Division I, three lectures; *a*, Introductory; (infant at term). *b*, Fetal Circulation; *c*, Vernix Caseosa; II, Normal Development, (four lectures); III, Hygiene of the Nursery; IV, Feeding (six lectures); V, Premature Infants; VI, General Principles of Examination and Treatment; VII, The Blood in Infancy and Childhood (four lectures); VIII, Diseases of the Newborn (three lectures); IX, Diseases of the Skin; X, Syphilis, Erysipelas—the Exanthemata (five lectures); XI, Diseases of the Nervous System and the Myopathies (fourteen lectures); XII, Diseases of the Mouth, Nose, Naso-pharynx, and Pharynx (three lectures); XIII, Diseases of the Esophagus, Stomach and Intestines (three lectures; XIV, Diseases of the Liver, Pancreas, Spleen and Peritoneum; XV, Diseases of the Kidneys, Bladder and Genitals; XVI, Diseases of the Larynx, Trachea, Lungs and Pleura (three lectures); XVII, Diseases of the Heart and Pericardium (two lectures); XVIII, Unclassified diseases, viz., rhachitis, scorbutus, rheumatism, purpura, diabetes, tuberculosis, epidemic influenza, diseases of thyroid gland, diseases of the cervical lymph glands, parotitis, diseases of the ear.

As will be seen, the book consists of fifty-three lectures on pediatric topics, and no one can look over the lectures on

feeding and on "the blood in infancy and childhood" without not only realizing what immense strides have been taken in the study of pediatrics in the last fifty years, but when the various incubators for premature births, and apparatus for preservation and sterilization of food are considered, but wondering what the world is coming to. At this writing our eyes happen to fall on two old volumes, Farre, "*Maladies des Enfants, de la Naissance a la puberté*," (diseases of children from birth to puberty), Paris, 1847. And in these two closely printed volumes, in which everything relating to the medicine and surgery of childhood is stated, there is not one line on hygiene, excepting the appendix which is given up to "the physiologic education of young children," and in which the question of milk is indeed considered, but how diffusely! How crude the methods of milk examination compared with those figured in Rotch's book, and not a line on preservation, modification or sterilization of milk! How the learned Farre would stare at the proposition to count the blood corpuscles, to estimate the red and white and the hemoglobin!

The last half of this century may well lay claim to precision in method, to accurate knowledge in physiology of development, to direct therapeutic measures, and to its great and crowning glory in advanced preventive medicine; may the next half century show equally great advances! We accept the book of Professor Rotch as in the foreground of the existing knowledge of pediatrics in the closing years of the nineteenth century. The decimal system of dosage and of weights and measures is used throughout the book.

We can not close this notice without complimenting the publisher on the excellent style of the volume and the very handsome illustrations.

The Principles and Practice of Medicine. Designed for the use of Practitioners and Students of Medicine. By WM. OSLER, M.D. Second edition. New York: D. Appleton & Company. Cl., pp. 1143. 1895.

This excellent text-book has so soon passed to its second editon that it must be accepted that a discriminating profession has given its judgment in its favor, and indeed it is well worthy of the generous reception it has met with, from whatever standpoint we view it. This edition has been carefully corrected and many additions made. Nor is the increase in bulk due to mere padding, for a comparison with the former will easily show that the additions are such as the progress of modern science have brought to the front. The work is divided into eleven sections as follow:

I, Specific Infectious Diseases; II, Constitutional Diseases; III, Diseases of the Digestive System; IV, Diseases of the Respiratory System; V, Diseases of the Circulatory System; VI, Diseases of the Blood and Ductless Glands; VII, Diseases of the Kidneys; VIII, Diseases of the Nervous System; IX, Diseases of the Muscles; X, The Intoxications; Sunstroke; Obesity; XI, Diseases Due to Animal Parasites.

There is everything to praise and little to find fault with in this book. We can not in the space of a mere notice undertake to write a criticism of so exhaustive a work, but we think when the next edition appears the distinguished author will take a less pessimistic view of the antiseptic and eliminative treatment of typhoid fever, (p. 40) and he will at least refer to the syphilitic forms of myositis, (p. 1050).

Handbook of the Diagnosis and Treatment of Skin Diseases. By ARTHUR VAN HARLINGEN, PH.B., M.D. Third edition, enlarged and revised, with 60 illustrations. Philadelphia: P. Blakiston, Son & Co. 8vo, cl., pp. 577. Price $2.75. 1895.

This handbook takes up the various diseases of the skin, in alphabetical order, without regard to classification, an arrangement which although very convenient, necessarily gives rise to some overlapping, and causes the reader to make various digressions to other pages when reading on any particular topic. For students preparing for examination, and for practitioners as a ready reference book, it will be found very useful. It is to be regretted that all the prescriptions, very numerously dispersed throughout the volume, are written in the old style, and that the decimal system is entirely ignored. When the new British Pharmacopœia shall make its appearance, it is understood that the decimal system will be adopted and then there will be no pharmacopœia in any language adhering to the old system. The trend of modern science in all departments is toward universality, and it is a pity to see a *new* book so persistently looking backward in this matter.

Precis de Manuel Operatoire. Par L. H. FARABEUF, Professeur a la Faculté de Médecine de Paris, Fin de l'Ouvrage (p. 683 â 1082). Résections—Appendice. Aout 1895. Paper, 8vo. Paris: G. Masson. 1895. [From P. Blakiston, Son & Co., Philadelphia.]

In 1872 Farabeuf commenced the work by a book on ligature of arteries, which was soon followed by the second book which was on amputations.[1] In 1893, the first and second books, which had reached respectively the fourth and fifth editions, were included in a single volume, and the one now under consideration is the third book, and is devoted to resections; with exception of an elaborate appendix in which is discussed the subject of trephining, excision of nerves of the face, œsophagotomy, tracheotomy, symphseotomy, ischiopubiotomy, coccygeotomy, sacral luxation, recto-vaginal fistula, exstrophy of the bladder. The volume concludes with a program of an operative course whereby with four cadavers, four students may accomplish a fairly complete operative course in eighteen séances. The work has not described *all* the recent operations, as the author pathetically says, but he has described enough of them to answer all practical purposes, and the remainder he will leave to some younger man.

Those who read French will enjoy the candor and quaint expressions of the author, which serve to enliven the pages of the handbook. The illustrations are excellent, and as a whole the work is a notable addition to the literature of the subjects within its scope.

Principles of Surgery. By N. SENN, M.D., PH.D., LL.D. Second edition. Thoroughly revised. Illustrated with 178 wood engravings and colored plates. 8vo, cl., p. 656. Philadelphia: The F. A. Davis Company. London: F. J. Rebman. 1895.

The growth of knowledge of surgical pathology since 1890 is so great that a revision of the work was necessary. The great learning and vast clinical experience of the author are shown at their best in a work of this sort, and while the book has been revised to date by the addition of new matter and new illustrations, the arrangement remains the same as in the first edition. For an elaborate review of the first edition, by Prof. Christian Fenger, see this JOURNAL, Feb. 14, 1891, vol. XVI, 1891, p. 250. The book is destined to hold the boards as a text-book for some time to come, and with justice, for it is a fair and exhaustive exposition of the teaching of the day on the subjects of which it treats. We welcome the volume to our library as the latest and most mature thoughts of the distinguished author on the fundamental principles of the science and art of surgery.

The Medical Register of New York, New Jersey and Connecticut. 1895-96. Vol. xxxiii. Published under the supervision of the New York Medico-Historical Society. JOHN SHRADY, M.D., editor. New York and London: G. P. Putnam's Sons.

This annual volume of 250 pages, well printed and bound, gives much valuable information regarding the status of the profession in one of the eastern medical centers that is obtainable in no other form. An arrangement of material better classified than in the earlier issues renders reference

[1] This was translated by Dr. Jno. D. Jackson, of Philadelphia, in 1874

more ready, while the somewhat more complete chronological record and the severer taste of the obituary notices impart the air of a closer attention to the historical element.

The list of physicians of New York and Brooklyn shows many changed addresses, and many removals to outside localities. Evidently the gradual change of the rental year in the great cities of the East from May to October, and the apartment system of merely monthly responsibility to the landlord, are bearing fruit in the medical as well as in other callings.

The Physician's Visiting List (Lindsay & Blakiston's) for 1896. Forty-fifth year of its publication. Philadelphia: P. Blakiston, Son & Co.

This well-known visiting list makes its forty-fifth annual appearance with the same clean pages and excellent arrangement that have characterized it for so many years. A dose table has been compiled for this edition by Dr. Geo. M. Gould, giving the doses of official and unofficial drugs in both the "English" and metric systems.

The value of this list is unquestioned and the long period during which it has been published, is sufficient evidence, if any were needed, of the popularity of the work.

Urinalysis, including Blanks for Recording the Analysis and Microscopic Examinations of the Urine. For medical practitioners, life insurance examiners and specialists. Arranged by JOSEPH C. GUERNSEY, A.M., M.D. Philadelphia: J. B. Lippincott Company. 1895.

This book has 500 blanks for recording the results of examinations of urine, and by their use it is practicable for the physician to keep the record of an ordinary or of a minute examination, moreover it can be kept as a continuous record in long cases. The blanks are preceded by a valuable practical chapter on apparatus and reagents, and the description of the various tests. The book is indexed.

PUBLIC HEALTH.

Diphtheria in New Jersey.—Owing to the alarming prevalence of diphtheria in Burlington, the Board of Health has ordered that all public schools be closed. Consequently the doors were shut for an indefinite period. The infant department of one of the Sunday schools has also discontinued its sessions for the present. There have been thirty cases reported to the Board of Health, seven of which have resulted fatally. Every possible measure is being taken to stamp out the disease. Twenty-one cases of diphtheria have been reported to the Trenton Board of Health within four days, and of these four have proved fatal. There were forty-eight cases of the disease reported last month.

The Abolition of the Contaminating Slate.—War against the school slate and pencil has been declared. Following the example set by the New York City Board of Health, calling upon the school authorities to abolish the use of slates on the ground that they spread contagion, comes the adoption of a resolution by the Mount Vernon Board of Education to the same purpose, and providing for the use of pads of paper instead. The alleged reasons for this action, in addition to the objection to the slate from a sanitary point of view, is that paper is now cheap, pads now being sold which are suitable for school purposes for from 2 to 5 cents each. Public school and health authorities in many cities and towns now have the subject under discussion, and will probably likewise decree that the slate and slate pencil must go. These hitherto useful articles will now be of value only to receive "spirit messages" from the other world through so-called mediums.

Variola and Vaccinia, their Manifestations and Inter-relations in the Lower Animals.—Copeman (*Journal of Pathology and Bacteriology*, Vol. II, No. 2) concludes his researches concerning the above subjects in the following propositions:

1. The organisms, to which the specific action of variolous and vaccine lymph is due, are, as yet, undiscovered.

2. Although this is the case, all the most reliable evidence, experimental and otherwise, is in favor of the organisms of these two diseases being identical in nature; the phenomena of vaccination being most probably due to an attenuation of the virus, caused in a similar manner to that witnessed in chicken cholera and other diseases by sojourn in the tissues of an animal which is more or less refractory.

3. Monkeys react to inoculations of variola and vaccinia in a similar manner to the human being, and therefore afford valuable means of controlling the results of experiments on the mutual relationship of the two diseases.

4. It is possible to isolate from vaccine (and also to a less extent from variolous) lymph a number of microörganisms, none of which, however, have anything to do with the specific action of the lymph.

5. These bacteria belong, in great part, to that class which is concerned in the process of suppuration, although others both pathogenic and non-pathogenic in nature, may be present also.

These "extraneous" may be destroyed, if present, by the following method of treatment which Copeman, like others, found would preserve the lymph unimpaired for an indefinite period; indeed, its specific activity so far from being destroyed, may actually become intensified; the lymph is mixed with a certain proportion of (75 per cent.) glycerin in distilled and sterilized water prior to storage in capillary tubes, which latter also had been sterilized by heat. There seems to be no doubt but that the glycerin method of storage of lymph offers the easiest solution of the problem of securing an aseptic vaccine virus.

Health Reports.—The following health reports have been received by the Supervising Surgeon-General, Marine-Hospital Service:

SMALLPOX—UNITED STATES.

Louisiana: New Orleans, November 9, to 16, 17 cases, 2 deaths.
Michigan: Detroit and Rochester, November 9 to 16, smallpox reported present.
Tennessee: Crittenden County, October 23, 1 case; Shelby County, November 13, 1 case.

SMALLPOX—FOREIGN.

Cairo: October 22 to 28, 1 death.
Dublin: November 2 to 9, 2 cases.
Guayaquil: October 4 to November 8, 5 deaths.
Hamburg: November 2 to 9, 1 case.
Glasgow: November 2 to 9, 6 cases.
London: November 2 to 9, 1 death.
Madrid: October 29 to November 5, 4 deaths.
Marseilles: November 21, smallpox epidemic.
Montevideo: October 12 to 19, 3 cases.
Nogales: November 9 to 16, 1 case.
Odessa: October 26 to November 2, 5 cases, 2 deaths.
Pernambuco: September 28 to October 12, 300 cases, 31 deaths.
Prague: October 19 to November 2, 5 cases.
Rio de Janeiro: October 12 to 19, 69 deaths.
Rotterdam: November 2 to 9, 2 cases.
St. Petersburg: October 25 to November 2, 7 cases, 2 deaths.
Tuxpan: November 2 to 9, 1 death.
Warsaw: October 26 to November 2, 1 death.

CHOLERA.

Bombay: October 15 to 29, 4 deaths.
Calcutta: September 28 to October 19, 86 deaths.
Egypt: To November 9, 658 cases, 496 deaths.
Osaka and Hiogo: October 12 to 19, 6 cases, 3 deaths.
Tangier; October 1 to 31, 1000 cases, 800 deaths.

YELLOW FEVER.

Cienfuegos: November 10 to 17, 3 deaths.

Guayaquil: October 4 to November 8, 3 deaths.
Perambuco:* September 28 to October 12, 30 cases, 3 deaths.

NOTE.—The U. S. Consul at Pernambuco, Brazil, writes that there is "more fever than has been known during the past twenty years."

NECROLOGY.

RICHMOND LENNOX, M.D., of Brooklyn, 34 years old, a specialist in diseases of the eye, died November 14. He was a graduate of the New York College of Physicians and Surgeons in the class of 1882. He was surgeon to the Brooklyn Eye and Ear Hospital, and also to the Kings County Hospital. He was a member of the New York Ophthalmological Society and the Kings County Medical Society. He was a member of the Hamilton, Lincoln, Carlton, Crescent and Whist Clubs. He leaves a widow and two children. The cause of his death was immediately due to cerebral embolism, occurring about twelve hours prior to his decease; he had for twelve years been the subject of chronic endocarditis.

W. HERBERT DUNLAP, M.D., of Syracuse, N. Y., November 11. He was born in that city in 1853, and was graduated from the Syracuse University in 1875. He received his degree in medicine from that institution three years later. He had made a specialty of dermatology for the last ten years.

JACOB MENDEL, M.D., age 50, died November 12. He was graduated at Breslau, Germany. For the last twenty-three years he had practiced in Milwaukee and was noted for his scholarly attainments. His last illness was of short duration. ——A. J. Freeman, M. D., of Macon, Mo., November 23.—— Henry B. Callahan, M.D., of Leavenworth, Kan., November 23, aged 74.——J. E. Chambers, M.D., of Chicago, November 24, aged 35.——Thomas Flournoy, M.D., of Richmond, Va., November 20.——Davis M. Hammond, M.D., of Evansville, Ind., November 18, aged 42.——D. F. Lindsay, M.D., of Noblesville, Ind., November 21, aged 77.

MISCELLANY.

Dr. C. F. Scott, the State Veterinarian of Wisconsin, says that when the golden-rod is eaten by horses, it produces a fatal disease simulating tuberculosis.

The Post-Card Dun.—The *Cincinnati Medical Journal* reports that "Dr. J. W. Morgan, of Cadiz, Ohio, has been arrested for having sent a dun to a former patient written on a postal card."

The American Journal of Surgery and Gynecology has been removed to St. Louis, from which place the December number (vol. VIII, No. 1) is just issued. Dr. Emory Lanphear, Professor of Surgery in the Woman's Medical College, has been appointed editor in chief.

The Committee of the Pasteur Institute has unanimously chosen M. Duclaux, former subdirector, to succeed M. Pasteur as director, and Dr. Roux as subdirector of the Institute. M. Duclaux, who is a professor at the Sorbonne, has been connected with the Pasteur Institute since its foundation.

Population of Japan.—The Department of State has received advices from Japan stating that the population of that country is estimated to be 42,000,000, plus 3,000,000 for the newly added territory of Formosa. Records of the population of Japan have been kept from the time of the seventh century; in 610, A. D., the number was recorded as 4,988,842.

Professor Koenig.—It is now definitely announced that Koenig is to be called from Göttingen to fill the vacancy in Berlin caused by the death of Bardeleben. Koenig is now 64 years of age, one of the most distinguished leaders of scientific surgery of the present, and widely known through his text-books on general and special surgery.—*Deutsche Medicinische Wochenschrift*, Oct. 31, 1895.

New Method for Differentiating Antifebrin, Phenacetin, and Antipyrin.—For this purpose warm a small quantity of the powder to be examined in a test tube with a small quantity of chlorid of zinc. Antifebrin thus treated gives out aromatic vapors; phenacetin, a sharp odor, resembling that of acetic acid; antipyrin, one resembling that of sulphid of carbon.—*Nouveaux Remedies* from *Pharm. Ztng.*, No. 63, 1895.

Medical College Recognized.—The Connecticut law concerning the practice of dentistry has been amended by the insertion of the words "or medical college," placing the holder of a diploma or other certificate of honorable graduation from a medical college having a department in dentistry, on the same footing with the holder of such document from a reputable dental college.

Madame (Doctor) Chellier.—The French journals state that Madame (Doctor) Chellier of Algiers, North Africa, has been appointed by the Governor of Algeria to make a special investigation in the outlying province. She is to visit villages, study the condition of the Arab and Kabyle women, among whom no male physicians are permitted by Mussulman law, and introduce such measures as will alleviate their sufferings.

A Butcher Became a Surgeon.—An agent of the New York County Medical Society has made a case against "Dr." Adolph Grundman, who came to this country two years ago and established himself as a butcher. Later he went into partnership with a registered physician. A female detective, also an agent of the County Medical Society, says that Grundman prescribed for her. He has been held for trial in a police court charged with practicing medicine illegally.

Chlorin in Typhoid Fever.—Dr. R. W. Wilcox (*American Journal Medical Sciences*, September, 1895) in an interesting article on the use of chlorin in typhoid fever, after describing the method of preparation gives his conclusions as follows:

1. Chlorin can be safely administered until complete disinfection of the alimentary canal is obtained.

2. Under its use the tongue becomes cleaner, the appetite and digestion better, fever lower, and the stools devoid of odor.

3. The general strength, the intellectual processes, and nervous conditions improve.

5. The disease is shortened in duration, and usually proceeds to rapid and complete recovery.

Can Demand Services of State Veterinary Surgeon.—The State Board of Health, it has been provided in Missouri, may demand of the Secretary of the State Board of Agriculture, through their President and Secretary, the services of the State Veterinary Surgeon to aid them in the inspection of such infectious or contagious diseases in live stock as are transmissible to the human family, and in the examination of meats, milk and foods, when in the judgment of said State Board of Health the assistance of this officer is necessary.

Staff Surgeon Steuder of the German Army has had a considerable experience with African bilious fever. According to *Illustrated Africa*, he has found that this fever seldom attacks men on the march or engaged in hard work, but seizes them when they are at rest. By examining the blood the fever may be detected before it declares itself, as the deficiency of hemoglobin is marked, and may then be readily cured on the spot. If too much hemoglobin is lost, the only thing to be done is to send the patient to Europe or some healthy climate. In one case he made a cure by the transfusion of healthy blood into the patient's veins.

A Medical Explanation.—From *The Watchman*: "Doctor," said an old lady the other day to her family physician, "can you tell me how it is that some folks are born dumb?" "Why, hem, certainly, madam," replied the doctor. "It is owing to the fact that they come into the world without the power of speech." "Dear me!" remarked the old lady, "now just see what it is to have a medical education! I've asked my husband more than a hundred times the same thing, and all that I could get out of him was, 'because they are.'"

New York State Association of Railway Surgeons.—This Association held a convention at the New York Academy of Medicine on November 12, under the presidency of Dr. R. S. Harnden of Waverly. The subject of the presidential address was the establishment of hospitals by the railway corporations and their employes, acting jointly. An election of officers for the year 1895–96 resulted as follows: President, C. S. Parkhill, of the Erie Railroad; First Vice-President, J. F. Valentine of the Long Island Railroad; Second Vice-President, J. K. Stockwell of the Ontario and Western; Secretary, C. B. Flerrick of the Delaware and Hudson Railroad; Treasurer, Theodore S. Mills of the Ontario and Western; Chairman of the Executive Board, Dr. George Chaffee.

Wooden Diagnosis With Up-to-Date Therapeutics.—Certain medical men of London, are said by *Popular Science* to be backing up the following doubtful expedient for the repression of the patent medicine business. Certain wooden figures have been put up on the nickel-in-the-slot principle. The figures are shaped like a man, with holes in every part of the body labeled with the diseases that usually affect that part. For headache you find the proper slot so labeled in the head of the figure, and drop in a penny; out comes an inexpensive but efficient prescription that can be filled by any druggist. These prescriptions are said to be gotten up by prominent doctors and are very good and useful. One object of this device is to make medicine cheaper to the poor and restrict the use of dangerous proprietary mixtures. The notice reads more like a bit of journalistic enterprise than a fact.

Change in Arizona Dentistry Law.—The law regulating the practice of denistry in Arizona has been amended, requiring those who wish to engage therein to furnish satisfactory proof that he or she has two years of practical experience in the practice of dentistry. And any applicant, it is further provided, presenting a diploma from a reputable dental college and a fee of $5, not returnable, may be granted by one or more members of the board, upon approval of the president, a temporary license to practice dentistry in the Territory until the next meeting of the board, at which time it shall issue to the applicant, providing the applicant shall have furnished satisfactory proof that said diploma was issued in good faith, to him or her, a practitioner's certificate entitling the applicant to practice dentistry in Arizona. The proceedings of the board shall at all times, instead of at all "reasonable" times, as heretofore, be open to public inspection.

Dr. Edward Berdoe, a practitioner of London, has written in the *Nineteenth Century* an article on the miracles at Lourdes, to which place he went in the attitude of a reverend skeptic. He saw a vast army of paralytics and consumptives, idiots, the lame and blind. The supplicants at the grotto kneel for hours with arms outstretched, wrapped in devotion, and often in ecstacy. The spirit of devotion is intense; it exalts the whole organism and serves of itself to explain much of the thaumaturgy. That wonderful effects are wrought at Lourdes is unquestionable. Purely dynamic diseases are cured, but not organic maladies. Ulcers and tumors may be caused to disappear, if such lesions be of the same nature as paralysis and other disorders of motion and sensation, which are commonly considered to be the sole field for the influence of the faith cure. Dr. Berdoe believes that similar cures have been wrought in all ages, and quotes Greek tablets testifying to wonderful cures of blindness through the agency of the gods.

Electrolytic Chlorate of Potash by the Ton.—The *Chemist and Druggist* has an article on the progress made in Europe in the electrolytic manufacture of chemicals, in which is conveyed the prediction that the United States will take the lead in the alkali industry of the coming decade. Hitherto the only important chemical that has been produced by electrolysis has been the chlorate of potash, but it can not be long before other substances will be made by that process. The basis of the remarks of the journal above referred to has been a report by a French chemist, a part of which is given below:

In *Le Moniteur des Produits Chimiques*, M. Désiré Korda gives a sketch of the application of electricity to chemic manufacturing processes, referring particularly to the manufacture in Sweden and Switzerland of chlorate of potash, which, so far, is the only important alkali product made by electrolysis. M. Korda thinks that it is only a question of a few years before the entire alkali industry will be revolutionized. The United States, he believes, will then become the leading manufacturers of chemicals; while in Europe the industry will have its chief centers in Switzerland, Southern France, and Sweden—the countries where powerful and cheap water power are in close proximity to large consuming markets. The Swiss chlorate of potash factory has been at work for nearly five years, the motive power being a waterfall 70 meters high. As yet, of the total yearly European output of about 8,000 tons of chlorate of potash, over 5,000 tons are contributed by the United Alkali Company. The electrolytic process in use in Switzerland is based upon Gall and Montlaur's process in which concentrated solution of chlorid of potash is decomposed in a double vat, divided by a diaphragm, but so connected to insure regular changing of the liquid from the negative to the positive compartments. The electrolized solution is heated from 45 to 55 degrees C., thus changing hypochlorite into chlorate. The cathode is of iron or nickel, the anode of platinum or of iridio-platinum. The current is equal to 50 amperes per square decimeter of electrode.

The Pineal Body.—In *Popular Science News* for October, Anna Hinrichs presents an illustrated article on the comparative anatomy of the pineal body. Her thesis is, that this body or "gland," is the rudimentary third eye of man and all vertebrates. The central point of our brain, which so long has remained a mystery to the student of human and comparative anatomy, now appears as the rudiment of a third eye, overgrown and depressed by the immense development of the brain. In other words, at the expense of a third eye, man has secured his brain, the organ of intellection. This discovery is not only very interesting, but also remarkably instructive, since this rudimentary third eye of man was looked upon by Descartes as being the seat of the soul.

"In closely examining the skulls of certain lizards, it was found that near the top of the head, under the dark opaque skin, and often in the very bone, an almost perfect eye exists, though no ray of light ever could reach it. Such an eye is represented in the upper figure of this cut. This eye shows a crystalline lens, a retina of very complex structure, and an optic nerve; in fact, all the essential parts of a perfect eye. But being covered by the opaque skin of the animal, it is absolutely useless. If this optic nerve is traced to the brain, it is found to connect the eye with the so-called pineal gland of the brain. This pineal gland is in no sense of the word a real gland, but a definite portion of the nervous tissue of the brain, invariably located just back and partly over the cerebrum, and in front of the rounded brain mass which generally is considered to correspond to the corpora quadrigemina in man."

It is probable that this third eye was, at an earlier stage of development, not rudimentary but in constant use. A mod-

erate modification—namely, a transparent integument—would suffice; this is exactly the condition of the normal eyes in reptiles to-day; the skin covers them, but it is transparent where it passes over the eye. In the skulls of some of the gigantic reptiles of the earlier age of this globe, paleontologists have long ago found a large round perforation. Probably this was the socket of the third or pineal eye of the ichthyosaurus, the plesiosaurus and the labyrinthodon. But a much more important conclusion must be drawn from this discovery; namely, that in all vertebrates, even including man, the traces of this third eye remain to this day. The pineal eye of lizards being connected with the large pineal gland of the same, it would seem that the pineal gland itself is but the nerve center or optic thalamus for this third eye. In all reptiles and amphibia, the pineal gland is large; so it is also in fishes. In the higher vertebrates, the cerebrum developes very highly, overgrowing the posterior portions, under the influence of which preponderance of the cerebral mass, the pineal body is more and more repressed into rudimentary forms. But it remains with obstinate pertinacity. It is even always present in man—though here only of the size of a pea and rudely resembling a pine cone in shape. It seems also degenerate in structure, having hardly any nervous tissue. These facts of form and structure have given rise to its name, that of pineal gland. The position of the pineal gland in man is almost in the very center of the brain. The pea-like, rounded mass attracts attention when the third ventricle of the brain is opened. It is almost free, being held in place by two light, stalk-like bands or peduncles which connect it to the cerebrum anteriorly. The gland, so-called, is rather vascular, and contains also crystalline mineral matter, the so-called *acervulus cerebri*, consisting mainly of phosphates.

Society Notes.

NORTH TEXAS MEDICAL ASSOCIATION.—The semi-annual meeting of the North Texas Medical Association will be held in Greenville December 10, 11 and 12. There are nearly forty papers on the program, and an instructive meeting is expected.

THE CHICAGO GYNECOLOGICAL SOCIETY, November 22, had an open meeting. Dr. Wathen, of Louisville, was an invited guest.

GRAYSON COUNTY MEDICAL SOCIETY.—The following preamble and resolutions were unanimously adopted by the Grayson County Medical Society at its regular meeting held in Sherman, Texas, November 5.

(Signed.) J. H. GLASSCOCK, M.D., President.
T. M. TAYLOR, Secretary.

DEPARTMENT OF PUBLIC HEALTH.

WHEREAS, This Society believes that a Department of Public Health under control of a Secretary who should be a member of the Cabinet of the President of the United States, is necessary to the welfare of this country; therefore be it

Resolved, That this Society indorses the bill now pending to establish such Public Health Department, and requests our members of Congress to support said bill and aid in its passage.

Resolved, That the Secretary be requested to transmit a copy of the foregoing preamble and resolutions to our Senators and Representatives in Congress.

Resolved, That this preamble and resolutions be spread upon the minutes of the Society.

Hospital Notes.

BEQUESTS FOR HOSPITAL PURPOSES AT NEWARK, N. J.—The will of Mrs. Anna Skinkle, daughter of the late Jacob Skinkle, leaves $3,000 to the Orange Memorial Hospital for the endowment of a child's bed in memory of her deceased son, William Skinkle Allen. She gave to her husband one-half of the residue of her estate, and provided that under certain conditions, the remaining one-half of her residuary estate should be used for the foundation of a general hospital for sick and infirm persons. It is to be located in or near Newark, is to be forever under Protestant control, and is to have connected with it a chapel for religious services, but such services are to be of an undenominational character. To provide against any miscarriage of her wishes in the hospital matter, Mrs. Allen says in her will that if for any legal or other reason the gift for a hospital, as made by her, is declared invalid, she gives it (one-half of her residuary estate) "to the Mayor and Common Council of Newark for the erection of a wing or annex to the City Hospital, the same to be known as the 'Skinkle Memorial Annex.'"

THE Day-Kimball Hospital at Putnam, Conn., was dedicated November 10.——St, Anthony's Hospital at Rock Island, Ill., was dedicated and formally opened November 19.——The committee appointed by the last Iowa Legislature to adopt plans and erect a hospital for the insane at Cherokee held a meeting in Des Moines November 20, and adopted plans for the institution which will cost $1,000,000.——The twenty-seventh anniversary of the New York Presbyterian Hospital was celebrated November 16. The annual report showed the expenses of the hospital during the year were $165,692.12 and the receipts from patients were $29,534.61. Donations were received amounting to $12,099.30, while the income from investments amounted to $27,857.29.——The Junior Society of Mount Sinai Hospital, New York, has been organized and promises to be one of the leading charitable societies of that city.——The Ladies' Aid Association, of St. Mary's Hospital, Brooklyn, N. Y., held a promenade concert and reception November 27.——The Woman's Board of Governors of the Orange Memorial Hospital will erect an isolated ward for consumptives.——It is alleged that owing to difficulties that have arisen between the Board of Trustees and the medical staff of the Phœnixville, Pa., Hospital, the latter have resigned in a body.——The Silver Cross Hospital at Joliet was opened November 16.

Detroit Notes.

DR. S. L. WYSZYNSKI.—A fatal accident happened at the Buchanan St. crossing of the Michigan Central Railroad, about 5 o'clock on the evening of the 21st inst., resulting in the death of Dr. S. L. Wyszynski, one of the leading physicians of the Polish district of Detroit. The deceased was born in 1854 in a province of Russian-Poland, and was educated as a physician at Academies at Warsaw and St. Petersburg. Four years ago, after having served fifteen years in the Russian Army, he came to America and located in Chicago, practiced there two years, and then moved to Detroit, where he continued a very successful professional career up to the day of his death. A wife and four daughters survive him, two of the daughters being at home and two in Russia, the eldest one, Mrs. Wanra Nicholi, being the wife of a lieutenant in the Russian Army.

WAYNE COUNTY MEDICAL SOCIETY at its regular meeting Thursday, November 21, listened to a very interesting paper by Dr. Dayton Parker on "Diphtheria."

THE DETROIT MEDICAL AND LIBRARY ASSOCIATION listened to a paper by Dr. F. Pettyjohn of Alma, Mich., entitled, "Notes on Differential Diagnosis and the Treatment of Neurasthenia," at its meeting of November 18.

THE ACADEMY OF MEDICINE at its meeting November 5, heard a paper from Dr. Hal C. Wyman on "Fractures of the Neck of the Femur."

HEALTH OFFICE REPORT for week ending November 23: deaths, under 5 years, 25, total 92. Births, male 47, female 35, total 82. Contagious diseases: week ending November 23: diphtheria last report 25, new cases 27, recovered 10, died 8, now sick, 34. Scarlet fever, last report 13, new cases 6, recovered 4, died none, now sick 15. Smallpox, last recovered 3, new cases none, recovered none, died one, now sick 2; also one case from Hamtramck, and one from Rochester, Mich., were taken to the smallpox hospital.

Philadelphia Notes.

THE JEFFERSON MEDICAL COLLEGE has purchased an adjoining property at Tenth and Medical Streets, and will in the course of next year open a laboratory building, five stories in height, fitted up with all the modern apparatus for technical teaching in physiology, bacteriology and pathology. The first floor is to be used for dispensary work.

THE MEDICO-CHIRURGICAL COLLEGE has purchased the adjoining properties on Cherry Street down to the corner of 17th Street, so that its buildings when completed (including the College Hall, the Hospital and Maternity) will extend an entire square from 17th to 18th, on Cherry Street.

A new clinical amphitheater is in course of erection on the premises of the hospital. An amicable adjustment of strained relations has been made with the Philadelphia Dental College. Both schools have used the lecture halls conjointly and carried on their dispensary service in the same building, for several years; but the classes have now grown too large for this arrangement to continue, and after next term the Medico-Chirurgical will dissolve the arrangement and will occupy the premises alone; the Dental College seeking quarters elsewhere. Dr. J. C. Bœnning has been elected Professor of Anatomy and Surgery in the Philadelphia Dental College, succeeding to Dr. Garretson's chair.

Free Lectures on Bacteriology.—A course of five weekly lectures, on Saturday afternoons at 3 o'clock, was begun at the Academy of Natural Sciences last week, (November 16) by Dr. M. V. Ball.

The City Bacteriological Laboratory.—A protest has been made against the continuance of the bacteriologic department in its present location on the seventh floor of the City Hall. Members of Council and others in fact wish to have the entire Health Department removed to a separate building so that they may not come in contact with medical inspectors in the elevators and lobbies. It is asserted that the bacteriologic laboratory is much visited by the public, and visitors are shown guinea-pigs and rabbits and "such small deer," in all stages of fatal infection with diphtheria, anthrax and other zymotic and contagious diseases. There seems to be an inconsistency in the health authorities placing human beings under so-called quarantine at their own homes, on account of a child which is affected by these disorders, and on the other hand indiscriminately inviting visitors to the laboratory, where the Klebs-Löffler bacillus is doing its deadly work on a score of inferior animals, which in addition to being made to suffer for the cause of science are also permitted to gratify a very unscientific curiosity.

Polyclinic Hospital and School for Graduates.—Dr. A. Larue Vansant has been elected Professor of Laryngology, and Dr. James K. Young Professor of Orthopedic Surgery in this school.

The Trustees of the Woman's Medical College have appointed Dr. James K. Young Clinical Professor of Orthopedic Surgery.

The Pepper Laboratory of Clinical Medicine connected with the Hospital of the University of Pennsylvania, 36th and Spruce Streets, will be formally opened Dec. 4, 1895, at 3 o'clock, P.M. Addresses will be made by Drs. J. S. Billings, Director of the University Hospital, and W. H. Welch of Johns Hopkins.

Philadelphia Hospital.—Dr. Alfred C. Wood was recently elected to succeed Dr. Wm. G. Porter, on the medical staff of the hospital, the latter having resigned after nearly twenty-five years service. Dr. J. Chalmers Da Costa was also elected to the surgical staff, thus increasing the number of surgeons to ten. Dr. Elizabeth L. Peck was chosen to succeed Dr. Clara Marshall on the obstetrical staff. Dr. Ernest B. Sangree was made pathologist to the hospital.

Municipal Authorities Supply Antitoxin.—November 20 should be a red letter day in the Philadelphia Health Department, as it possibly marks a new era in medicine, for on that day the city of Philadelphia, entered the lists among the manufacturers of medicine and distributed to the Municipal Hospital the first delivery of antitoxin, or diphtheria vaccine, of its own manufacture.

A Colony Farm for Epileptics in Pennsylvania has been projected and a charter obtained from the courts. Dr. Wharton Sinkler, of Philadelphia, is the President of the Board of Directors. It has been announced that a donation of $50,000 for building purposes has been promised, if a suitable site be obtained for a farm before the first of next January.

Schleich's Method of Local Infiltration and Anesthesia was recently brought before the Philadelphia County Medical Society by Prof. Theophilus Parvin, and Dr. Keen has done a laparotomy, a herniotomy and several other operations by this method, which is a substitute for general anesthesia in suitable cases. Dr. Morton and other surgeons also have operated successfully by local anesthesia.

St. Louis Notes.

Mortuary Reports for the week ending November 23: deaths, 160; preceding week, 156; corresponding week of 1894, 146. Births reported, 233.

Contagious Diseases.—The Health Office reports for the week ending November 23: cases of diphtheria, 160, deaths, 20; cases of croup, 20, deaths 10; cases of typhoid, 11, deaths, 6; cases of measles, 10; cases of scarlatina, 12.

The St. Louis Medical Society.—The scientific program on November 23 consisted of a paper on "A Phase of Traumatic Epilepsy," by Dr. Frank R. Fry, with discussions by several neurologists. Dr. Fry deprecated the common use of the word traumatic, as somewhat lacking in discrimination, and advocated the use of the term only in those cases of epilepsy where it could be shown that trauma had affected the brain directly or indirectly in a way to produce epilepsy. His remarks were made anent two cases that had been reported as instances of traumatic epilepsy, in one of which the trauma had been a burn at the knee, and in the other a head injury; both of which had been cured by treatment of exciting foci outside of the brain itself; viz., treatment of the scar in one case and the removal of buttons of bone in the other.

Dr. A. B. Shaw, in his discussion of the paper, emphasized the need there was of a constant reminder that epilepsy was merely a symptom, pointing out how various lesions of the brain might produce epileptoid manifestations. He could not say that he was entirely in accord with the reader in his attempt to limit too sharply the use of the term traumatic, though he did not wish his position to be construed as opposing that taken by Dr. Fry, since in his hearing of the paper he might have failed to gain a clear notion of the limitations Dr. Fry advocated. Dr. C. G. Chaddock could see no reason why a case of epilepsy should not, for practical purposes, be called traumatic when its development could be shown to be related to an injury, no matter whether the trauma affected the brain directly or not. If we were to reserve this qualifying word for only those cases of epilepsy in which injury to the brain could be demonstrated, it could be consistently used only where the brain had been actually examined, or where there were symptoms of focal lesions. As the cases cited showed, it was well in any case to consider the possible operation of reflex influence even in those cases where the injury had been to the head. As a suggestive allusion, reference was made to the possible path to the cortex of an irritative excitation of the dura; viz., through the peripheral neurons of the trifacial and the vagus. A rather close relation of the fifth nerve to the vagal nucleus was assumed through its descending roots, and the proximity of the vagal nucleus to the convulsive area in the medulla was pointed out. Was there any relation between this area and the vagal nucleus and cortex that could be of influence in the production of convulsive seizures? Though Buiswanger had not produced epileptic convulsions by irritation of this area, tetanoid movements had thus been induced, and at least its relation to the vagus was worthy of consideration in cases of epilepsy where a reflex through the trifacial or vagus was possibly in play. The influence of predisposition to epilepsy in cases of a traumatic causation was emphasized, because there was seemingly an inclination to overlook it. It was suggested that it was quite as influential in traumatic cases as in other varieties of epilepsy, and this could not be ignored until a lesion that would invariably induce epileptic seizures had been demonstrated. It would be interesting to know whether the findings in the urine and blood that had been demonstrated for so-called idiopathic epilepsy would hold good for epilepsy due to gross brain lesions. The necessity to remember that general causes, such as a toxin in the blood, might induce Jacksonian seizures, was pointed out, for neglect of this might lead to an error in diagnosis. Dr. G. C. Crandall likewise laid stress upon the element of predisposition in epilepsy, no matter what the exciting cause, and he pointed out the bearing other signs and symptoms of a general neurosis might have upon the prog-

nosis of operative procedures for the cure of convulsive seizures. Dr. Ludwig Bremer alluded to the findings of sclerosis of cortical and subjacent nervous tissue which he had been able to demonstrate in the few epileptic brains he had examined. He emphasized the relation of epilepsy and hysteria, recalling the fact that it is often impossible to make a differential diagnosis between true epilepsy and hysterical seizures. He was inclined to question whether there was not an hysterical element in so-called reflex epilepsy. Dr. Keating Bauduy instanced several interesting cases of reflex epilepsy, mainly of genital origin, which rather pointed to an hysterical factor. The general discussion was concluded by remarks from Drs. Funkhouser and Jacobson.

Washington Notes.

HEALTH OF THE DISTRICT.—From the report of the Health Officer for the week ended November 16, is taken the following abstract: the general health of the city underwent a material improvement last week. From 121 in the week previous, the mortality fell to 99, and the annual death rate per 1,000 inhabitants correspondingly declined from 22.8 to 18.6. There was no death reported by diphtheria, scarlet fever, measles or whooping cough. There were 7 deaths from typhoid fever as compared with 8 by the last report, while those from consumption were over 50 and from other lung maladies 20 per cent. less. The birth returns amounted to 72, and those of marriages to 79, of which 44 were between white and 35 between colored persons.

MEDICAL SOCIETY OF THE DISTRICT.—At the meeting of the Medical Society held on the 20th inst., Dr. H. W. Beatty reported a very interesting fatal case of dermatitis exfoliativa which was discussed by Dr. B. F. McGuire. Dr. Behrend reported a fatal case of rabies in a lady patient, and Dr. D. E. Salmon read a paper on the prevalence of rabies in the District of Columbia. Both subjects were discussed by Drs. V. A. Moore, Walter Reed, Forwood, Chappell, Lovejoy, Schaeffer and others. Dr. Acker reported a case of endocarditis following chorea in a young child.

REPORT OF COMMITTEE ON STEAM RAILROADS (BOARD OF TRADE).—The committee on steam railroads and public safety are making war on steam railroads and endeavoring to bring about certain changes in grade crossings which will protect human life and limb. In their report to the Board they give the following recapitulation of the killed and wounded during the past four years:

BALTIMORE AND POTOMAC RAILROAD.

	Killed.	Injured.
1892	6	7
1893	10	7
1894	5	11
1895	5	11
Total	26	36

BALTIMORE AND OHIO RAILROAD.

	Killed.	Injured.
1892	6	5
1893	7	7
1894	1	6
1895	0	1
Total	14	19

Killed, 40; injured, 55; total, 95.

LETTER TO A WASHINGTON PHYSICIAN.—The following letter bearing the stamp of the U. S. Senate, was received a few days ago by a prominent Washington physician:

Dear Doctor:—I enclose cheque for $——. This I fear (my memory being shy) still leaves a balance. But then it is singularly appropriate that I should have a running account with you, inasmuch as it was always on account of a running that I called to see you. Did you laugh? You get a cigar. Confidentially, it takes a —— good natured man to joke about a doctor's bill. Any man who can descend to that, would laugh while his teeth were being pulled.

"Yours very truly, ——"

THE PUBLIC SERVICES.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from November 16, 1895, to November 22, 1895.

Major Joseph K. Corson, Surgeon, leave of absence granted is extended twenty days, on surgeon's certificate of disability.

Capt. George McCreery, Asst. Surgeon, is granted leave of absence for four months, to take effect about Dec. 10, 1895.

First Lieut. Irving Wallace Rand, Asst. Surgeon, will report in person without delay to the President of the Army Medical School, for the course of instruction prescribed in General Order No. 78, Sept. 22, 1893, from Adjutant General's Office.

APPOINTMENTS.

To be Asst. Surgeons with the rank of First Lieuts., Nov. 15, 1895: Thomas Jellis Kirkpatrick Jr., John Hamilton Stone, Irving Wallace Rand.

Powell Conrad Fauntleroy, to be Asst. Surgeon with rank of First Lieut., Nov. 15, 1895.

RETIREMENT.

Lieut.-Col. Joseph R. Gibson, Deputy Surgeon General, retired from active service Nov. 15, 1895, on account of disability incident to the service.

PROMOTIONS.

Major Justus M. Brown, Surgeon, to be Deputy Surgeon General with the rank of Lieut.-Col., Nov. 15, 1895.

Capt. Daniel M. Appel, Asst. Surgeon, to be Surgeon with the rank of Major, Nov. 15, 1895.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending November 23, 1895.

Medical Director P. S. Wales, ordered to duty as member of retiring board, Washington, November 25, in addition to his present duties.

P. A. Surgeon R. P. Crandall, detached from the naval laboratory, and ordered to the naval hospital, New York.

P. A. Surgeon Philip Leach, detached from the naval hospital, and ordered to the naval laboratory, New York.

Marine-Hospital Changes. Official list of changes of station, and duties of Medical Officers of the U. S. Marine-Hospital Service, for the fifteen days ended November 15, 1895.

Surgeon C. S. D. Fessenden, ordered to proceed from Salem to Boston, Mass., for physical examination, Nov. 14, 1895.

P. A. Surgeon D. A. Carmichael, relieved from duty at St. Louis, Mo., and directed to proceed to Vineyard Haven, Mass., and assume command of Service, Nov. 1, 1895.

P. A. Surgeon S. D. Brooks, relieved from duty at Chicago, Ill., and directed to proceed to St. Louis, Mo., and assume command of Service, Nov. 5, 1895.

P. A. Surgeon J. H. White, granted leave of absence for twenty-three days, Nov. 5, 1895.

P. A. Surgeon T. B. Perry, granted leave of absence for thirty days, Nov. 11, 1895.

P. A. Surgeon J. O. Cobb, to proceed from Pt. Townsend to Port Angeles, Wash., as quarantine inspector, Nov 1, 1895.

P. A. Surgeon J. B. Stoner, to proceed from Detroit, Mich., to Baltimore, Md., for temporary duty, Nov. 1, 1895.

Asst. Surgeon C. H. Gardner, to proceed from San Francisco, Cal., to Chicago, Ill., for duty, Nov. 5, 1895.

Asst. Surgeon Norman Seaton, to proceed from Baltimore, Md., to New Orleans, La., for duty, Nov. 1, 1895.

Asst. Surgeon A. R. Thomas, to assume temporary command of Service at St. Louis, Mo., Nov. 1, 1895.

Asst. Surgeon J. B. Greene, to proceed from Vineyard Haven, Mass., to Baltimore, Md., for duty, Nov. 1, 1895.

Change of Address.

Beckett, J., from 879 Lake St. to 283 Park Ave., Chicago.
Carmichael, D. A., from St. Louis, Mo. to Vineyard Haven, Mass.
Caldwell, J. R., from New Hamburg to Greenville, Pa.
Dunbar, L. L., from 500 Sutter St. to 606 Sutter St., San Francisco, Cal.
Gardner, Mathew, from Sacramento to Southern Pacific Hospital Association, San Francisco, Cal.
Miller, R. E., from 3100 State St., to 3255 State St., Chicago.
McIntyre, J. H., from 623 Locust St. to 710 Olive St., St. Louis, Mo.
Norbury, F. P., from Jacksonville, Ill., to 1006 Olive St., St. Louis, Mo.
Penny, H. T., from Baltimore, Md., to 1016 10th St., Washington, D. C.
Sharpe, W. F., from 500 Sutter St. to 606 Sutter St., San Francisco, Cal.

LETTERS RECEIVED

Ayres, H. B., (2) Indianapolis, Ind.
Barrett, Joseph E., Wooster, Ohio; Busey, S. C., Washington, D. C.; Bacon, M. W., Chicago, Ill.
Carmichael, D. A., Vineyard Haven, Mass.; Cone, Andrew, New York, N. Y.; Cochran, Jerome, Montgomery, Ala.; Carstens, J. H., Detroit, Mich.
Dodd, F. B., Waucoma, Iowa; Dougan, Peter, New York, N. Y.; Darr, H. H., Caldwell, Texas.
Eastman, Joseph, Indianapolis, Ind.
French, Pinckney, St. Louis, Mo.
Gihon, Albert, New York, N. Y.
Hinsdale, Guy, Philadelphia, Pa.; Hunt, Mary H., Boston, Mass.; Hildenbrant, The C. J. Co., Syracuse, N. Y.; Hahnemann Publishing Co., Chicago, Ill.; Hammond, W. A., Washington, D. C.; Hubbell, Alvin A., Buffalo, N. Y.; Hummel, A. L. Advertising Agency, (3) New York, N. Y.
Instant Cut Off Co., Port Huron, Mich.
Kane, Evan O'Neill, Kane, Pa.; Kober, Geo. M., Washington, D. C.; Kremers, Henry, Holland, Mich.; Keating Wheel Co., Holyoke, Mass.
Longmans, Green & Co., New York, N. Y.; Lambert Pharmacal Co., St. Louis, Mo.
Mills, Harry Brooker, New York, N. Y.; Marchand, Chas., New York, N. Y.; Mead, F. N., Bristow, Iowa; Marshall, T. E., Union City, Tenn.; Morse, Lyman D., Advertising Agency, New York, N. Y.; Mason, D., Spokane, Wash.
Newman, H. P., Chicago, Ill.
Owen, W. E., Fox Lake, Wis.
Paquin, P., St. Louis, Mo.; Pendleton, Geo. W., Idaho Falls, Idaho.
Reed & Carnrick, New York, N. Y.; Risley, S. D., Philadelphia, Pa.; Reed, R. Harvey, Columbus, Ohio.
Smart, Chas., Washington, D. C.; Schering & Glatz, New York, N. Y.; Schimmel, M. S., Baltimore, Md.
Truitt, U. L., Chicago, Ill.; Turnbull, Laurence, Philadelphia, Pa.; Tabb, W. R. & Co., New York, N. Y.; Thomas, D. R., Tennille, Ga.
Van Horn, A. K., Jerseyville, Ill.
White, Frank, (2) Elwyn, Pa.; Willard, De Forrest, Philadelphia, Pa.; Western Pennsylvania Medical College, Pittsburg, Pa.; Wire, G. E., Chicago, Ill.; Würdemann, H. V., Milwaukee, Wis.